

ITEMS OF INTEREST.

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ORIGINAL COMMUNICATIONS.

HABIT SPASMS.

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Children often, and adults sometimes, present spasmodic movements, such as winking, twitching the mouth, jerking the head, movements that have a half-voluntary aspect, but which the individuals are unable to control. The patient is said to have "got a trick" of moving the part. Weir Mitchell calls this "habit chorea," but "habit spasm" is perhaps the better term.

The condition is met with chiefly in childhood, especially in the second half, but it sometimes commences in youth, and even in adult life. In young women it is often associated with symptoms of hysteria, and there may be a difficulty in deciding whether certain spasmodic movements are to be regarded as of reflex dental neurosis, of habit spasm or of hysterical spasm.

When it commences in childhood, the affection commonly ceases after a few months or a year, but it occasionally goes on to middle life or even longer. Rarely it begins late in life, but is then generally permanent. In early life it occurs especially in nervous and excitable children. The affection is said to be more common in females than in males, but is often seen in boys. Some writers claim that impairment of general health often precedes the development of the movements; occasionally they appear to be due to some special influence depressing the nervous system, overwork at school, a fright or some injury. In one case, for instance, the onset followed a fall into water.

Again we notice that frequently there is a history of other neurosis in parents or other relatives. It is quite probable that the affection often arises by imitation; not direct imitation, perhaps, but the witnessing of such movements is apt to produce a peculiar excitability, which finds expression and relief in movements of a similar nature. In cases in which something like direct inheritance can be traced, it is probable that this influence has been at work. A father, for instance, had such movements in the face

all through his life, and two children likewise presented them. So we must frankly admit that in many cases no causes can be traced, and the affection seems to be the result of the restlessness of childhood, specialized, as it were, in a particular direction. In one instance a relative of mine, a girl, who began to blink the eyes in early childhood, still did so at the age of thirty.

In another case reported to me, a clergyman of thirty-seven was greatly annoyed by an involuntary smile, of somewhat meaningless aspect, which would cross his face from time to time without the slightest corresponding emotion, and even when he was engaged in public in the most solemn parts of the church service. It never troubled him when he was preaching or in conversation, but it often occurred when he was looking at another person and sometimes gave rise to misconception. It commenced at the age of sixteen, and was at first more than a smile, being actual laughter, but it gradually subsided to its present form.

The following are two important cases which have been under my special inspection and treatment for some time. The first, a Mr. E. Short, of Saginaw, W. S., aged about seventy. The trouble came on about six years ago while living in Texas. It began by a slight twitching of the muscles under the right eye. There was no pain at any time. One year from the time it started he consulted a dentist who extracted the right upper cuspid, but this gave him no relief. Now all the upper teeth are wanting, but the trouble still exists, being periodical in its nature, and the right eye partly closed.

Another was that of a lady, aged about forty. Her trouble came on about four years ago, and in very much the same manner as that of the previous one. She has a twitching of the left masseter muscle at intervals, and also of the lower eyelid of the corresponding side. This trouble has been a source of a great deal of annoyance to her, so much so that she consulted a number of physicians with the hope of getting relief. She was finally induced to have her teeth examined. I extracted all the diseased teeth that she had in her mouth some time ago, and instructed her to report to me in case she received any benefit therefrom; but I have thus far been unable to get any word from her.

There are many well marked cases on record in which the cause of this muscular disturbance of the face was found to be due to an irritation reflected from diseased teeth.

The subject is of the profoundest interest and importance, but is little understood even by our best investigators. One fact, however, seems to be apparent, and that is that there is some abnormal relation between efferent and afferent nerve impulses. The trig-

minal nerve is undoubtedly the most remarkable nerve in the whole nervous system, especially when we consider the intricate connection of its nuclei with those of the various motor cranial nerves.

This will undoubtedly afford ample explanation for the many reflex disturbances. But why this irritation due to pathological conditions of the teeth, for example, should in one result in a wry neck or facial spasm, and in another in blindness, in deafness, in chorea, in dyspepsia, in epilepsy or in mania, is an inquiry at present unanswerable and almost beyond our comprehension.

As "habit spasms," or whatever muscular disturbance it may be, are generally increased by observation, it is very important that little notice should be taken of them by the friends of the patient. Sometimes the movements will then cease without further treatment.

They are seldom under direct voluntary control, and the endeavor to prevent their occurrence may be futile, especially if the attempt is made under the fear of threat and punishment. But the promise of a reward at the close of each day on which the spasm has not occurred will sometimes gradually cause their disappearance; a strong desire, free from any depressing emotion, effects that which the will cannot directly achieve. Any obvious defect in the health must be made good, and a change of air is often very beneficial, especially when a change in companionship can be secured at the same time. The deterring influence of strangers is often very marked. Nerve tonics, such as quinin, are sometimes of use. If there is much excitability of the brain, or if spasmodic movements are seen, bromid of potassium may be needed, and occasionally a local blister is very efficient. The smiling clergyman mentioned above ceased to be troubled after he had for a few weeks taken some iodid of iron, and a dose of bromid each time he had to conduct a service in church.

In recent cases of facial spasm, apparently excited by cold, free diaphoresis should be employed, and the face and side of the head bathed frequently with hot water. If there are indications of organic disease, the nature of this must be ascertained, and, as far as possible, treated. All causes of reflex irritation must be sought for and removed; decayed teeth should be extracted, especially if they are on the same side as the spasm. Occasionally such nervine tonics and stimulants as zinc, nitrate of silver, asafoetida and valerian may be given, but in the vast majority of cases they conspicuously fail. Sedatives applied to the skin seldom exert any influence over the spasm. In the use of morphia for the relief of spasm it is probably more desirable to inject it in or near the

seat of spasm than in its anodyne use. The temple is the most convenient locality. Electricity has been largely used, and has been highly praised by some of its advocates, but in nine-tenths of the cases it fails even to relieve.

Stretching the facial nerve has been of late adopted, but with small results. However trivial many of these cases seem to be, they often cause more annoyance than many diseases of far more serious nature.

Dr. Bonwill, in the New York Odontological Society, said: "I regret that gentlemen are so very careful of what they might say about the use of amalgam in their own practice that they would not rise to the discussion. You all speak as if you seldom use amalgam, and yet every one of you, I know, uses it. I know just how much amalgam is used by others, and I am willing to bring my practice to show you how much good I am doing with it."

BRIDGE-WORK.

In Alabama Society.

Dr. Allen: I know that my bridges do good service. It is true that all patients are not suitable subjects to wear bridges, as some are too careless of the cleanliness of their mouths. But this has nothing to do with the fit of the bridge. Marble dust is not the only investment that will enable us to solder without cracking. Browne's investment, which you don't have to wait on to dry out, will do just as well. The use of borax in soldering is also an old method, and has been superseded by Parr's flux and fluxed wax. These leave no deposit on the teeth, nor scales on the gold, and causes no discoloration. It is very well to split the pins, but you sometimes break the tooth. It is just as well to bend them down. The great trouble about bridge-work is that men undertake to do it who know nothing about it. I do not advise the insertion of a bridge of fourteen teeth on four roots. One out of fifty may last a few years, but, as a rule, it is better to extract and use a plate. In making crowns and bridges we should expose as little gold as possible. We should not place a jewelry shop in our patients' mouths. Great gold restorations in the front teeth should not be resorted to. Crowns should be used instead, being much more artistic.

Dr. C. V. Rosser: I do not think that a crown made with a Morrison die plate is a desirable one. If I wanted to use that kind of a crown I would prefer those that are so beautifully made

and placed on the market ready for use. But I do not think that a good fitting crown can be made in that way. I want to see inside of my band and see that it fits before I put the cusps on. I do not believe that Dr. Allen can always accomplish what he claims to in bridge-work without seeing the patient. In how many cases have you done that?

Dr. Allen: I have made a hundred and fifty in the last two years, and have heard no complaint from any of them.

Dr. Rosser: Then the other fellow got the blame. Perhaps he didn't know enough to know a fit from a misfit. I don't believe in any such stuff. You can make a bridge that is pretty enough to look at, but the other fellow has to make the teeth fit the bridge. I cannot always get a good fit, without making some changes, even when I have the patient in the office. As to bending or splitting the pins, there is just as much risk of breaking the teeth from one as from the other. Dr. Browne's investing material is as good a thing as you need. Mix it with alcohol and burn out the alcohol to dry it, and you will break very few teeth. The man who does not know where to put a bridge and where to use a plate should not be allowed to make either.

Dr. Taylor: The risk of breaking the teeth in bending the pins is overestimated. It can be done with impunity, and is the only way to use the cross pins.

Dr. Crossland: Make the holes in the backing fit the pins accurately, and the tooth will be relieved of most of the strain, reducing the risk of cracking to the minimum. I agree with Dr. Rosser. I want to see inside of the band before I put on the cusps.

Dr. Browne: If you understand how to use the Morrison outfit you can make as good fits with it as by any other method. For making the cusps, use modeling compound instead of wax or shot. The iron mandrel chills the surface, and when you drive it down it spreads beautifully, and does not come out around the sides, as wax does.

Dr. Pearson: To test the fit of a crown, fill it with soft wax and force it to place on the tooth. When you remove it, the wax will show exactly where it fits and where it does not. You do not get a fit like the enamel on a tooth, but you get, practically, a fit. I got this from Dr. Crossland.

Dr. Browne: You will find it valuable also in cases of hypersensitiveness from grinding down to adjust crowns. Mold one of the gutta-percha caps to fit, put some crystals of cocain in it, and place it on the tooth. Strike up an aluminum blank and place it over the gutta-percha for protection. The effect will be magical.

Dr. Taylor: For a local anesthetic, a 10 per cent solution of

cocain in listerin and mint water, with a few drops of carbolic acid, is excellent. It will enable you to drive your bands under the gum without giving much pain. The cusps of a crown should never be made by guess-work, but you should have a plaster cast of the occluding tooth and make the cusps on an iron die.

FILLING ROOTS.

In Alabama Association.

Dr. R. C. Young.

There are few cases where I believe in immediate root filling. When the pulp is removed by injecting cocain, and this should be done in all single rooted teeth, it is best to fill at once, and here is the only place to use carbolic acid, except in fistulous abscesses. Even if immediate root filling does not give trouble shortly afterward, the tooth breaks down sooner than when the dentine has been thoroughly sterilized. I believe that there is much more under- than over-treatment done. Be careful how you use coagulants. These you can recognize by using a little white of egg in distilled water. Put in your drug, and if it is a coagulant it will cloud the water. Egg albumen and that of the blood are practically the same.

All being ready for filling, put on the rubber-dam, making your holes with a red-hot needle. I use an old syringe needle; this makes a hole less liable to tear and hugs the tooth closer, often doing away with the ligature. For root fillings, I like chloro-percha, worked into canal, followed by gutta-percha points. Of course, canal must, in all cases, be as dry as possible. Evans' root dryer is indispensable. Cement is not reliable. It absorbs and becomes offensive. Smell the cement from an old filling, if you want to be convinced. Cotton is worse, lead discolors, and it is only short of a miracle when gold root filling is properly done. Salol is the latest fad, but has not come to stay. If you want an all-day task, try to fill an upper root with it. The crystals are to be packed in canal and then a warm broach inserted, melting salol, which crystallizes and fills root solidly. It melts at one hundred and four degrees. The normal temperature is ninety-eight and a half, fever, often raising it to one hundred and two to four, leaving a very small margin for warm drinks. If a metal filling will conduct heat enough to cause pain, I see no reason why the salol would not melt.

Should the tooth be off color, it should now be restored by

bleaching with pyrozone 25 per cent. The dam must be on and root filled. Fill cavity with the pyrozone, evaporate with chip blower. I use pipet with bent point drawn smaller, then they are wrought by heating in alcohol flame till red, then drawing out to size wanted. Or asbestos can be used as a vehicle, but no paper or other fibrous matter should be used, as it lessens the bleaching power. It is unnecessary to seal up in cavity as in using chlorin, etc. I have bleached a badly-discolored tooth in thirty to sixty minutes. And they retain their restored color. One word about opening these tubes. I came near a serious accident with the first I used; it bursted in my hand, throwing contents in my face and pieces of glass all around. Had it gone in my eyes, it would probably have resulted in blindness.

To open,—place tube in vessel of ice-water, then wrap in towel, wet with ice-water, file the end or cut with stone, in water, then nip off with pliers, and pour into glass stoppered bottle, when all is safe. After bleaching, tooth should be neutralized before filling.

THE IDEAL PROFESSIONAL MAN.

IN Alabama Association.

Dr. B. D. Brobson.

The realization of our noblest ideal is a consummation devoutly to be wished, and one that is attended with the greatest possible fruition and solid satisfaction to the mind of man.

Circumstances control indications, and a man whose environments are favorably, ordinarily, is considered better able to accomplish greatest results, but the man who is less fortunate in the good things of this life, and accepts the situation as he finds it, accomplishing his plans, is, to my mind, the more to be appreciated.

Man's inherent right to become superior in his vocation is limited only by his desires and capabilities; for no allegation is more positively proven than that "as a man thinks, so is he."

One can rise no higher than his own conception of his possibilities, and for a man to arrange his plan of life, without regard to his right to excel, is detracting from the ideal.

The man who is content to live in the "limited sphere of his own vision," is little better than the ox that is content to feed on the grass in the meadow, or "the worm that crawls on in the dust to the definite term of its own existence."

All that is human must retrograde if it does not advance. And so every successive man is personally responsible for the condition of his immediate surroundings. Imperial man is ever advancing in the royal road to a higher life, and is constantly accumulating a wealth of energy and wisdom that will elevate him above the ordinary life and compel him to breathe an atmosphere of pure thought and an inspiration superior to those beneath him. What a consolation it must be to a man who feels that he has reached the goal he has long been striving for—that his ideal is at last attained! And he meets the approbation of his fellow-man, and above all, his conscience! No man lives to himself, alone. By nature we are creatures of association, and the poor, deluded fellow who feels that every man's hand is against his, and who lives a secluded life and is ready to succumb to every little adversity, will never be a success; will never become "A hero in the strife." It is the man who is genial, social and capable, and is able to adapt himself to his surroundings, that will rise above failures, and whose resolution will grow in its encounter with difficulties. Goethe has truly said, "There is no genius but hard work." It is the prime factor of all great attainments. It is the salt of life, and, by work, we but obey the mandate uttered in the Garden of Eden, "By the sweat of thy brow shalt thou eat bread."

The satisfaction of knowing that we have accomplished a good deed, that we have, in some way, ameliorated the condition of a poor fellow-sufferer, has a value far above a money consideration. The man whose sole aim in life is money-getting, has a perverted view of the requisites of a happy life, and will sooner or later exclaim, "All, all is vanity and vexation of spirit!"

The immortal Prentice said: "The love of money is the strongest and lowest passion of the human heart, before whose remorseless altar all the finer attributes of humanity are sacrificed."

Imagine a man, created in the image of God, sacrificing every pure and noble impulse, and the association of home and friends, cross, selfish, weighed down with care and business, no time to devote to the cultivation of the nobler and higher impulses and duties of life in the mad rush for money. Such a man deserves the pity and contempt of all right-thinking and good men.

We often hear it said, "This is a free country; a man can do as he pleases." But I think a man is a criminal who will knowingly lower the standard of his profession or vocation in his greediness and haste to make money.

What right has a man to engage in a work that has taken years for good and strong men to elevate to a high standard, and degrade and drag it down to the lowest possible standard?

Can the ideal professional man be guilty of such work? Certainly not.

We must measure success or failure by the good we do.

TUBERCULOSIS OF THE TEETH.

J. E. Barricklow, D.D.S., Columbus, Ohio.

When Koch, of Germany, discovered the tubercle bacillus, it settled, beyond a doubt, a long standing and much-debated problem; namely, the true origin of all tubercular diseases. There may be yet a few doubting Thomases who believe this microbe only a sort of scavenger or larva feeding on the broken-down tissue, caused or produced by some other source; but most of our best medical men believe the tubercle bacillus to be the true source of this disease.

This little animal, as remarked by Dr. James T. Whittaker, of Cincinnati, Ohio, is very fastidious in its habits, requiring a favorable soil for its destructive operations; but when such conditions are favorable, it is capable of breaking down and feeding on any tissue of the body, from the pulpy brain to the hardest bone in the body.

Now, is it not reasonable to believe that the ravages of this same little animal have reared a profession of specialists in medicine or surgery, or, if you like it better, a profession separate and apart from the medical, and that profession, dentistry? Is it not also reasonable to believe, when an examination of the mouth has been made and one or more cavities found in a tooth or teeth, that we have nothing more or less before us than tuberculosis of the teeth? This theory may be somewhat startling to some of my brothers in the profession, and especially those that still adhere to the acid theory of decay; but if you will notice the progress of some forms of well-established tubercular diseases, you will find the resemblance very striking to the disease so long known to our profession as dental caries. Much has already been written on differential phases of tuberculosis and its modifications wrought by climate, age, condition of patient, and also the different tissue affected; also, if you will compare the prevalence of tuberculosis among the races, nations, and tribes of people that populate our globe. I believe in every instance where the per cent of tuberculosis is high, you will also find the presence of dental caries high, and as the tubercular per cent decreases with other nations or tribes, you will also notice dental caries decrease in the same ratio; and tribes of people who are not affected with tubercular diseases are

also exempt from carious teeth; and yet some of the people grind, cut and mutilate their teeth in many ways, and as for cleansing the teeth or body, either is something they have never read about, let alone thought of practicing.

Another proof in favor of the theory that dental caries are tubercular is made by comparing the different species of the lower animals and their non-liability to both dental caries and tuberculosis to the human race.

Some one of our authors claims that the North American Indian was free from carious teeth before the introduction of tea among them. Now, does it not stand to your good reason that the germs or microscopic organisms were carried by those messengers rather than that the tea had anything to do with production of this unknown disease?

The treatment for carious or tubercular, with both surgical and medicinal, is well-known to the profession, and when skilfully carried out is largely successful; however, I would say a word of caution to the profession in regard to the excavating of tubercular teeth, and especially when this part of the operation is performed, after the rubber-dam has been adjusted, which is the proper way to excavate and prepare cavities. I think it is well, in every case, to thoroughly sterilize the cavity before proceeding with the excavating; also, I would speak against an assistant using the chip blower, as they are sure to puff the cut and pulverized debris directly in the operator's face; these suggestions, if complied with, will not retard or interfere with the operation, and may save the operator some unnecessary exposure.

CLASP PLATES.

John G. Harper, D.D.S., St. Louis.

There are no objections to clasps if properly made and adjusted.

The first step in the operation of making a clasp plate is to obtain a model of the tooth to be clasped, which may be taken in modeling compound or wax; an impression may be taken with moldine and a metal model made.

The model secured, the next step is to make a pattern for the clasp, using card-board for the purpose. The clasp should be wide, so as to clasp the tooth firmly. If you should wish to hold anything firmly in the hand you would not clasp it simply with the thumb and finger, but with the thumb and all the fingers, and with both hands if the object to be held was large enough. The clasp

should embrace the whole crown when permissible. The metal best suited for clasps is composed of a five-dollar gold piece, to which is added a ten-cent silver piece, and rolled to 24 of the gage plate, this clasp metal has the proper spring, and does not lose that property when heated in soldering, and can be soldered with 18k. solder when used on a gold plate.

The paper pattern is used to cut out the proper shape of the metal, then the clasp is properly fitted to the model by commencing at one end of the clasp and carefully bending the metal trying on the tooth, proceeding till the clasp fits the model, filing away the clasp so as to accommodate the festoons of the gums. The clasp is now ready to be tried on the tooth and further adjusted if necessary.

If the clasp is for a rubber plate, a stay should now be soldered on the lingual side of the clasp; these stays may be made of nickel by simply rolling "a nickel" to 28 of the gage plate. A piece of the nickel of the proper width and half an inch long is taken, some holes made in it and fitted to the clasp, by bending slightly to fit the clasp instead of placing the stay at right angle to clasp, attach it at about forty-five degrees, bending the nickel to fit the clasp instead of filing it to fit, this gives a firmer attachment.

The clasp is now ready to be smeared on the inside with a sticky wax, made of equal parts of bees-wax and rosin, a little of the wax should be also placed on the stay to fill up the space between the stay and the palate or gum. The clasp is now placed on the tooth, any surplus wax removed, and see that the clasp is firmly set in its proper position. Select an impression cup; see that it does not touch the clasp or stay; take the impression in plaster; let set firmly; remove by gently loosening and carrying it away from the teeth in the direction of the long axis of the teeth; usually the clasps come off in the impression, if not, they should be removed and properly set in the impression; remove the wax from the inside of the clasps, being careful not to disturb the wax on the stay as this is a part of the impression. Prepare the plaster impression for the pouring of the model, allowing none of the parting material to cover the inside of the clasps. The plaster for the model is poured; allowed to harden; the impression removed, and you have a model of the mouth with the clasps held firmly in position, and are ready to go on and make the plate. Fourteen karat solder may be used for the rubber plate, as the solder is covered up in the vulcanite.

These clasps may be used on gold plates. The best results are obtained by first fitting the gold plate to the mouth, then

placing the clasps in position as indicated in the foregoing. The plate may be held in position by the use of a little sticky-wax. The impression is taken with the plate and clasps in position.

A model is now made of a mixture of plaster and marble dust or sand, after removing the impression you have a model of the mouth with the plate and clasps in position; dry out and solder the clasps to the plate, using 18k. solder, only tacking the parts together, using but little solder, so that in case the clasps are not correctly adjusted they may easily be removed, the completion of the soldering can be done at the time of soldering on the teeth. The plate with the clasps now attached is ready to try in the mouth; if all is correct, proceed to get the bite and attach the teeth in the manner preferred.

MECHANICAL DENTISTRY.*

Dr. S. W. Foster, Decatur, Alabama.

I am not an advocate of plate work, especially in partial sets, for our modern methods of bridge-work should be utilized in such cases. But our patients are not able to afford such work, and we are compelled to put in plates. It is but little trouble to obtain, proximately, a good expression, as we can match the natural teeth in making our selection; but in full dentures we find deficiency in symmetry and blending of expressions, that he who succeeds must prove himself an artist. Indeed, I assume that it is far more difficult, in the construction of a full denture, to make your work deceptive and restore to the face the features once given it by a Divine hand, than to build up the most difficult and artistic contour filling.

The most essential point toward obtaining results in full dentures, is to be able to select teeth of the corresponding color and shape. To do this we should be familiar with different temperaments. Of this most dentists know nothing, which results in unnatural appearances.

It is a fact that each of the four temperaments has facial expressions and teeth peculiar to its own type. Why is it we so often see pearl blue, long almond-shaped teeth inserted in the mouths of people whose lips are thick, eyes usually gray, face full, their general physical build bulky and clumsy—typical specimens of lymphatic temperament—while the above described teeth belong to the nervous type? Or, on the other hand, we often find the

* Alabama Association.

reverse, teeth that are dark gray, opaque, large and broad, inserted in mouths of persons whose lips are thin, eyes dark brown, hair dark and fine, general physical appearance delicate—true specimens of nervous temperament—while the teeth selected belong to the lymphatic type. It is because the dentist is ignorant as to what class of teeth are allied to the temperament of the patient, or doubtless has no conception in his own mind as to what type of temperament the patient is. Some of our text-books tell us what class of teeth belong to each different temperament, two of which I have just described, as there seems to be here a lack of education. To the sanguine temperament, that most perfect type of humanity, belong teeth that have a straw yellow, translucent shade, and are well proportioned. And in the bilious temperament, we have teeth of an opaque brownish yellow, large, broad, a little longer, however, than wide. It is true that we rarely ever find a person who has not a combination of two of the temperaments. If we are familiar with the different types we can so blend the two in making selections that we need make no mistake in finding teeth that will give the proper expression, should we observe the rules that govern setting up and adjusting them as we should.

I believe that if we were, as a profession, to give this more time and thought, we would see a great improvement in the appearance of prosthetic work.

“BACTERIOPHOBIA.”

We were sure it would come—a new disease. Several cases of mental aberration, the result of the fear of microbes, are reported. One would not drink anything for fear of bacilli in the water; another would eat no strawberries, not knowing that the hands that picked them were free from bacteria. The same man refused eggs, having read a statement that microbes had been found in eggs of fowls which fed in a garden where some one once lived who ended his life by consumption.

The wave of excitement shows how low the grade of intellectual development. The microscopists discover bacteria. They find more than three hundred varieties; they declare that three-fourths are harmless or benefic; the remainder malefic. They also say that some of the harmless are inveterate foes of the worst of the destructive; that some microbes will kill animals and not man, and others man and not animals. They teach that a healthy stomach, with its natural acid reaction, will kill most of the bacte-

ria. But discussion concentrates attention, and then the half-educated or the mentally weak go wild. They do not stop to think that bacteria have been doing their work since the world began, and that the human race has survived, and the average duration of life increases all the time.

Early in the season a stage loaded with passengers consumed with thirst, came to a stream turbid with vegetable mold washed from the banks. One sprang from the stage and drank about half a pint of the water. The rest expressed wonder; when they arrived at the hotel where lunch was provided, they drank the well-water and praised its sparkling qualities. They did not know that the black, dirty water was probably more wholesome than two-thirds of the well-water or much of the filtered water, so called.

As to the bacilli in eggs, we rely implicitly on the hen, content if the egg has not outlived its usefulness and is properly cooked.

The Grand Forks *Daily News* has raised this plaintive note:

"Life is real, life is earnest,
But it would be more sublime
If we did not have to spend it
Dodging microbes all the time."

Common-sense people do not dodge them, nor wear microscopic spectacles to detect them, for they would be afraid to shut out all microbes, the three-quarters with the one-quarter. They will risk them all, after taking ordinary precautions; but in a real and widespread epidemic will protect themselves, if possible, from the particular germ.

FILLING ROOTS.

I want a tough gutta-percha. Eucalyptol is sufficient to lubricate the surface of the gutta-percha and allow it to pass easily in a fine root canal, and I venture to say that any canal which can be opened can be filled with gutta-percha. I mean the gutta-percha we now use for base plates—red gutta-percha. If the canal is open, is dried and flooded with either the volatile extract of eucalyptol or oil of cajeput, it can be filled. My method is to cut it in square strips lengthwise, the way in which it has been rolled, that would make a square rod, then holding it over the lamp or flame gently twist and draw it. You can draw it down to the fineness of a hair, and as it is twisted it forms a cone screw. This can be cut off in sufficient lengths such as you will want, one-quarter of

an inch, heat the end of the broach and catch on the end the gutta-percha point and carry it to its place. The difference between that and soft white gutta-percha is that the latter will invariably curl up, and this will do it if you are not rapid. It can be carried up in the cavity and the screw allows the surplus to flow back and another cone is then pressed to its place and the softened part is returned toward the opening. The reason why I prefer this red gutta-percha is that we frequently have occasion to crown these teeth, and with any tooth which has to be crowned where the root canal has been filled with either white gutta-percha or with any of the cements, it is almost impossible to tell when you are drilling out the canal, whether you are drilling the tooth structure or the cement. There is no difference in the color. With the red gutta-percha it is different, for when your shavings show you are cutting white you are cutting tooth structure instead of the filling. This is for the purpose of crowning where you wish to open in the canal for the purpose of inserting a post. I have experimented with this a number of times in showing my friends how I fill root canals, and have taken teeth and had my son cleanse out the canals. They are generally pretty dry. I filled them, and in taking them up afterward found some cracks in them which could not be discovered till after they were filled. They would show red gutta-percha, and any filling material that will fill those cracks is good enough to fill the roots.

I have experimented with glass tubes made as near the form of root canals as it is possible to do, have had them inserted in plaster and filled them in that manner, and then opened them. I believe any canal that can be opened up can be filled with gutta-percha in this manner.

I will say to those who fill root canals with chloro-percha that there is danger of pumping it back and getting air in the canal, and in the experimental cases that I have filled in this manner I have invariably found there were bubbles. *A. E. Matteson.*

A movement is on foot to introduce into the Canadian public schools regular inspections, by experts, of the teeth of all pupils. The project is a trifle paternal in its character, but it is only a further development of the principle which governs compulsory vaccination in our own schools. In view of the dental degeneration of the American people, such an inspection is to be recommended on this side of the border.

HOW TO SCIENTIFICALLY PLACE THE VACUUM CHAMBER.

Dr. Bonwill says: *Not the least in value to the practical dentist are the principles involved in air-chambers which this law has given and enabled me to rely on implicitly as a true guide to success for thirty-six years.*

While I have taught it in every lecture on articulation, yet have never given to it a special interest by drawings that was due it.

There has never been a rule laid down how large to make a vacuum; how deep; nor at what part of the circle of the alveolar ridge to be placed to secure a universal and continuous pressure of the main plate on the surrounding parts.

While it can be more clearly understood in a didactic lecture, illustrated by casts and models of various forms of the palate and alveolar borders, yet I will, by cuts, do it so that a little study will enable any one to make the practical application.

In my future series of articles on practical dentistry, soon to appear in the ITEMS, I will, in my résumé of articulation, give special attention to this as a development from this geometrical law.

I speak emphatically here of vacuum chambers, because bridge-work does not come up to the high water mark; and at last the chamber has to be made, and there will be greater reliance to be put on full plates when the laws of artificial teeth articulation is understood, and the plan even carried to a vacuum chamber.

This same law is revealing to me how a full upper denture can be retained by a horseshoe plate when the *gold tubes or pins* are inserted into the alveolar borders to hold the plate in position. The day is dawning when a revolution is at hand, when men study these laws which I gave them nearly forty years ago. Let them wait till my next.

W. G. A. Bonwill.

DENTAL DEFORMITY IN AKROMEGALIA.

The report of the work in the clinics of the Royal University of Breslau, Germany, reproduced by the *Monatschrift für Zahnheilkunde*, includes a case of dental deformity in akromegalia.

L. was a mill worker, said to have always been in good health, and from a healthy family. After serving his time in the army, in 1877, he once noticed an enlargement of his hands and face, which continued to grow for about three years, and then ceased. The patient is short, stout, rather heavily moving, though strong and

strikingly pale, especially the lips and eyes, and the face puffed. The speech is slow, the thoughts inactive. The lower part of the face is strongly developed and the lower jaw and the upper lip protrude, allowing the forehead and skull to retreat. The lower jaw measures 14 cm. from chin to jaw angle, and carries strongly developed soft and spongy lower lip. Its thickness is $2\frac{1}{2}$ cm. The lower jaw projects at least one inch over the upper one. The distance between the lower wisdom teeth is 6.8 cm., their connecting line with the lower central incisors measuring 4.9 cm. The distance between the wisdom teeth in the upper jaw is 4 cm., and on their connecting line with the central incisors 3.2 cm. The teeth are quite decayed; those of the lower jaw do not strike their opposites. The upper jaw is normal, especially curious appears the widening of the tongue. It is soft; its mucous membrane much wrinkled and folded. It is movable in all directions, though with some difficulty. The skin on the face is somewhat thick, faded and weak. The facial bones show no softening. The neck is short and thick, but no swelling of the glands. The chest is well rounded, of normal volume.

ABSCESSSES.

I treated with a Donaldson broach, Gates-Glidden drill, a great deal of warm, carbolized water, and a syringe, a long piece of cotton with carbolic acid on the end, and common sense; and I cured it, so far as I can see, and the patient is satisfied.

Now, as to how I filled it. I cleaned the roots out. It being a lower sixth year molar, I find the distal root has but one canal, the median or front root two, not two roots, but two canals. I take the oxid of zinc and mix with oil of cloves to a thin paste, or a little thicker, and after drying the roots as thoroughly as I can, keeping dry with napkin or dam, I place a little in the root and take a small piece of gutta-percha, warm it and force it in the root as far as I can, and then fill the roots with gutta-percha. I fill part of the crown with cement for a foundation and then build any kind of filling on that.

I have been fairly successful with dead or pulpless teeth, but not as much as I have where the pulp is a live one and in a good state.

I have found as much decay in teeth this past year as I have in the years previous, with all due respect to those D.D.Ss. who would have us believe that they can prevent it, and I find that teeth decay around their fillings all the same.

A. A. Pearson, in Alabama Society.

ARTIFICIAL TEETH.

This subject is one that comes very close to my heart. Yet, in fifteen years, I have not heard more than two or three papers devoted to it. Dentists think they must all be tooth-stuffers. They talk about filling roots and capping nerves and filling cavities ; but that don't require one-half the skill that is needed to make a really good, perfectly fitting rubber plate. I do not believe, however, that, as has been said, ninety per cent of all plates put in are ill-fitting. The average man can take a good impression. Any mechanic of ordinary skill can take a good impression in plaster. I do not believe, though, that a perfect impression can be taken with compound or wax for a partial plate. It will pull somewhere. You can get it with plaster when you can do it with nothing else.

But no man can learn in a week or a month or a year to properly articulate the teeth. They cannot make them touch at three points at the same time, in mastication. I am glad to have the value of a knowledge of temperaments. I have given this much attention. It has much to do with diseases of the teeth ; but it is especially useful in the selection of artificial teeth.

It is too much the custom to turn our plate work over to the student or to hire some one to do it. No man can give the mere impression to a mechanic and have the teeth suit the patient. However exquisite the workmanship may be, there will be no restoration of the contour, no individuality. It is your duty to give your patient your best services. It should hold a place in your estimation, not excelled by any other work in your practice.

You should never take an impression of a mouth without obtaining with it a vivid impression of the patient's whole face, with every shade of individuality.

Dr. Gray.

“FOREIGN BODIES IN THE EAR.”

Children need no longer suffer from foreign bodies in the ear. Dr. Marcel Natier, of Paris, who has a double advantage of both extensive clinical observations and private practice has given much attention to the treatment of that trouble. In a pamphlet before us, he says : “This method consists chiefly in forced injections of tepid water with a syringe, or any other instrument capable of producing a jet of sufficient intensity.

“In some cases the conduit should be anesthetized, the inflamed tissues soothed with a direct application of a concentrated

solution of cocain, then suitable instruments (probes, levers, etc.,) should be used to remove the foreign bodies." The author emphasizes the fact that the latter operation demands much delicacy and moderation. He cites cases of bungling treatment by a physician who, desiring to show how simple the operation was, tortured a child for two hours, after which he allowed his helpless victim to get some breakfast, in order to be able to stand further trials. The sympathetic mother, however, prevented the practice of more tortures by her applying to the author who was successful with his more careful and humane treatment.

To remove insects, injections are also used, if they are dead ; if alive they must be reduced to a real or apparent corpse by the introduction of oil, ether, or chloroform, after which injections must follow. The same for larva.

FOR REMOVING WARTS.—A French authority says that a mixture of the following, painted on warts daily will cause them to become detached :

Concentrated acetic acid.....	10 parts.
Precipitated sulfur.....	20 "
Glycerin.....	50 "

That man, I think, has had a liberal education who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of ; whose intellect is a clear, cold, logic engine, with all its parts of equal strength and in smooth working order, ready, like a steam engine, to be turned to any kind of work and spin the gossamers as well as forge the anchors of the mind ; whose mind is stored with the great and fundamental truths of nature and of the laws of her operations ; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by by a vigorous will, the servant of a tender conscience ; who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to respect others as well as himself.

Would it not be a good thing if most of our essayists at our society meetings valued their essays at their shortness instead at their length ? Of course we would not have them suppress thought that was really pressing for utterance. But it seems such hard work for them to get at their main thought, and when they do get a glimpse of it, it is such hard work to let go of it.

CURRENT THOUGHTS.

DISEASE OF THE ANTRUM OF HIGHMORE FROM A MEDICAL STANDPOINT.

SYMPTOMS, SIGNS AND DIAGNOSIS.

In most cases I believe the trouble has been latent for a long time before they call in the physician or on the dentist for assistance. Persons may have the trouble for years before it announces itself. Jeanty, in reporting 22 cases of latent empyema, states that they were slow, insidious; there existed neither pain nor swelling in the affected cheek, and the sole manifestation of the disease was nasal secretion of continued or intermittent character, fetid or without odor or pus. The health of the patient becomes impaired if the disease has been of any great duration. They suffer from a mild degree of septicemia, from the absorption of pus. The classical symptoms are, as a rule, not present together—such as distension of the antrum, swelling of the cheek, infra-orbital pain, escape of pus, lying on the sound side.

It is only during the epidemic of influenza for the last two or three years that I can find any clear reports of acute attacks of antrum troubles. It is by studying these cases that we can prepare ourselves to make an early diagnosis of this class of troubles. I believe many cases occur that do not report to physicians, or, if they do, are not diagnosed. Felix Semon, the eminent laryngologist, reports* an acute case of his own antrum, caused by influenza. There was considerable coryza, a watery discharge from both nostrils, followed by a sensation of fullness in the left cheek, increasing to a sense of intolerable distension of the zygomatic region. The skin over the part became distinctly swollen and reddened and tender to the touch; temperature, 100.5. There was no frontal neuralgia. After these symptoms had lasted twenty-four hours, a violent blowing of the nose brought away an ounce of turbid greenish purulent fluid, followed by more of the same on lowering the head, inclined to the right. A few hours after this more of the same fluid escaped; later on a third escape took place. The acute complication now subsided, though two days later another discharge of greenish fluid of a mucoid character took place, which signalized the end of the affection. The points worthy of attention are: (1) The sudden and violent increase in pain during sneezing or coughing; (2) the limitation of pain to the affected region, and finally the tendency of influenza to single out the

* *British Medical Journal*, February 24th, 1894.

locality of its sequelae in different individuals. In Semon's case the sequelae observed occurred in the domain of the fifth nerve. Lennox-Brown and Moxham report acute cases with practically the same symptoms.

Wolfenstein, of Cleveland,* reports a case of acute empyema of the antrum of Highmore as follows: "The patient states that he caught a severe cold in his head two weeks ago, which ran an ordinary course till within the past three days, when he noticed soreness of the teeth, pain in the cheek of the left side; at the same time there was also a profuse discharge of pus from the left side of the nose; a feeling of soreness on this side of the nose also. The pain on the left side of the face is considerable, especially at night."

Kreig, in his account of acute causes, speaks of the great pain suddenly coming in the upper jaw, followed by swelling of the skin and a feeling of a weight in the antrum. Perforation gave great relief and a speedy cure. There were two relapses.

There is, in some cases, great pain in the upper jaw; the teeth seem to be long or pushed down out of their sockets, as it were. The pain shoots up in the ear, and at times takes on the nature of supraorbital neuralgia. The supraorbital pain is far more frequent than the infraorbital. The patients complain of a nasty odor, that is quite evident to themselves, but is not noticed by any one else; this odor is not constant, but in most cases can be observed by the patient drawing the mucus down and back in the posterior nares; this is caused by their drawing the odor out of the antrum during this action. In some cases the odor can only be noticed in the morning, and by others in the evening. This depends, I think, on the size and position of the opening in the antrum. Pus can be found, in most of the cases, coming out from behind the front of the middle turbinated bone. The flow of pus can be increased, in many cases, by holding the diseased side uppermost and the head forward and downward. The pus at the anterior end of the middle turbinated bone pulsates at times.

Zeim, in 1888, showed that blennerhea of the nose rarely occurs without disease of the accessory cavities, and pointed out and proved that where this symptom occurs it is usually due to empyema of the antrum. We have headache, complained of mostly in the frontal region, though in one case it was occipital and passed away after the operation. The opening in the antrum from the nose will, in most cases, be covered by polyps, or there will be either polypoid degeneration of the mucous membrane of the middle turbinated bone or hypertrophy of the same. Denuded bone

* *New York Medical Journal*, August 5th, 1893

about the opening can very often be felt with a probe. McBride calls attention to marked redness of the gum on the diseased side; this sign I have not met with. Pain on percussion will be found, in many cases, on the affected side, and when the teeth are struck. There is likely to be a feeling of increased fullness and distension, with an increase of pain on the affected side, headache and sickness of the stomach toward evening. This is caused by the position of the patient during the day being erect, which does not allow a discharge of pus to take place, the antrum filling up full. Most of the cases are those, I think, where there is rather free drainage in nose, and the symptoms or the trouble seems to be periodical. A case of this kind, now on hand, came to me for eye trouble; complained of neuralgia; pain worse in the evening; fullness, not pronounced, on right side of face; severe headache; pain over the eye; pain so great at times as to cause sick headache and vomiting. After close questioning, patient admitted a nasty odor, noticed by herself only; pus free in the morning, less so at night, when the pain comes on; an abscess of a cuspid some four years ago; is wearing a rubber plate. Has a polypoid degeneration of the middle turbinated bone in the nose; pus flows from behind the bone, which is pushed firmly over to the septum.

Berger calls attention to the frequent occurrence of polyps and hypertrophy, which closes the opening of the sinus; the secreted liquid is retained in the cavity, where it serves for development of all kinds of bacteria, and particularly those which produce the mixture of trimethylamine, methylamine, and dimethylamine, which one meets with in old red herring sauce, and the odor of which is identical with empyema.

One of the means for diagnosis is the electric lamp in the mouth. In the healthy subject the pupil has a red reflex, and there is a bright, almond-shaped space under the eye. If these two are dark, there is a decided probability that there is trouble in the antrum. If with the dark pupil and dark space under the eye we have pain above the eye, or the whole side of the head is painful, and pus in the nose, we need not hesitate to make a diagnosis of pus in the antrum. The fact must not be overlooked that very often antrum troubles do not happen alone; they are, in most cases, associated with suppuration in the ethmoidal and sphenoidal cells and frontal sinus. This condition must be thoroughly treated at the same time as that of the antrum. Some have claimed that there is a resistance to the finger on percussion—almost dullness over the affected cheek; I have tried for this, but have not convinced myself of its correctness. Then, if we have a case with pus coming from one side of the nose, an odor that is only noticeable

to the person himself, and this not at all times; the electric illumination, showing a dark space under the eye. With these three—or even with any two of them—we can safely make the diagnosis of pus in the antrum. If we are in doubt, the use of hydrogen dioxid (a few drops thrown up behind the middle turbinated bone and in the antrum) will, in most cases, decide the question. If pus is in the antrum, there will be felt a commotion, and the foaming caused by the decomposition of pus will be plainly seen under the middle turbinated bone. A small trocar and cannula can, for diagnosis, be thrust in the antrum, either through the canine fosse or through the external wall of the nose, under the inferior turbinated bone. The treatment of empyema of the antrum would seem to be simple and easy. We have a cavity filled with pus; all that needs to be done is to give it good drainage, keep it clean, and it will get well itself. This is simple in theory, but in practice does not seem to work. If we could see the cases soon after their commencement, the theoretical treatment would be successful; but we do not see the cases in this stage. It is only long after the beginning that we see them; then we have all the complications to combat. That antrum affections are troublesome to treat and bring to a recovery, we need only to refer to the great number of expedients and operations that have been performed and suggested for its relief in the last three or four years. The subject has been written on so much that one can say but little of anything that has not been said before. The treatment is, of course, surgical: open the antrum; give good drainage. The best place for most cases to be opened is as is laid down by both Brown and Talbot, of Chicago, and Fletcher, of Cincinnati, and is the point I have opened in the last cases I have had before I saw what these men had done; this is between the second bicuspid and first molar, and under the molar process. This place, Talbot and Fletcher have demonstrated, is the point where, in most every case, the lowest point of the antrum can be reached. After the antrum is opened it must be washed out and kept clean. Most any solution that is cleansing can and has been used; the changes have been wrung from warm salt water to a strong nitrate of silver solution. In one of my cases the man had used his own urine. To treat cases successfully all the complications must be removed, such as polyps in the nose; enlarged middle turbinated bones; pus in the ethmoidal cells and in the frontal sinus. These causes just mentioned, nose men are beginning to think, are the cause of most of the empyema of the antrum. This subject was discussed in England in December, 1894, and the majority were of this opinion. If there is a deceased tooth or necrosed alveolar process, these are the cases

that dentists encounter; they must be removed. I hope when you, my dental friends here, do this, your cases may all do as well as one of your confreres says his cases do; that is, after removing the tooth and diseased bone, washing out thoroughly, they get well in two or three treatments.

The dentists, as a rule, and a great number of rhinologists, open in the cavity through the socket of an extracted tooth; this is a good way in a number of cases, especially if there is no complication. If the case has been of any duration there is likely to be polyps in the antrum or polypoid degeneration of the mucous membrane. If this happens, the condition must be removed by vigorous curetting, or scraping of the cavity. We may have the mucous membrane of the cavity in folds. There may be bony septums growing in the antrum, the result of the inflammation, as was stated in the pathology. These must be broken down. The opening as described can be enlarged or an opening can be made through the canine fosse. One thing that favors recovery is the fact that in pathological cases the opening in the nose is much larger than in normal cases. This trouble has been treated and cured by the injection of fluids through the opening in the antrum, through the inferior meatus under the inferior turbinated bone. A small trocar and canula, slightly bent, may be used, putting the point of the instrument well in the nose and beyond where the lachrymal duct enters the nose, and pushed in, out and upward, till it is felt to have entered a cavity. The trocar is withdrawn, and the cavity washed out. Kuster, of Berlin, advocates about the same way of operating. The nose is first put under the influence of cocain. Some operators open both through the inferior meatus and between the bicuspid and molar teeth; by this means they can easily wash out the antrum. The method by which the operation is done will depend on who discovers it—physician or dentist. I believe, though, there will in the future be fewer openings through the alveolar process, because we are discovering the trouble every day nearer its beginning. A number of men treat the cavity by the dry method. The cavity is cleaned by irrigating it well, drying it thoroughly by blowing in air, then iodoform, iodol or any antiseptic powder. Some brilliant successes have been had from this treatment. Packing the cavity after curetting with either bichlorid or iodoform gauze is often done. But, whatever plan of treatment is decided on, it must be thorough. The cavity must be made clean and kept clean. We have a good helper in cleansing in hydrogen dioxid or pyrozone. I would like to call attention to one little point in washing out the cavity—that is, do not use much force. Use a fountain syringe with plenty of fluid, and do

not have it raised very high above the head, and when the water is running in the antrum put the head in different positions, so that the fluid may reach all parts of the cavity. As to the instrument to open the cavity, there is nothing equal to the dental engine, but physicians and surgeons do not need to go to this expense. Any good bone drill will do the work; even a gimlet has been used. To keep the openings open various expedients have been used, the least irritating are either soft or hard rubber tubes made for this purpose. I have good results from gold tubes.

Although it is in the last few years that we have made the greatest advances in our knowledge of this condition, we are not very far in advance of the celebrated surgeon John Hunter in operating. He, over one hundred and twenty-five years ago, speaks of it in terms that would do to follow to-day. He says the first part of the cure, as well as that of all other abscesses, is to make an opening, but not in the part where it threatens to point, for that would generally be through the skin of the cheek. If the disease is known early, before it has caused destruction of the fore-part of the bone, there are two ways of opening the abscess—one by perforating the partition between the antrum and the nose, which may be done, and the other by drawing the first or second grinder of that side and perforating the partition between the root of the alveolar process and the antrum, so that the matter may be discharged for the future by that way.

Pacific Coast Dentist.

MALIGNANT TUMORS OF THE MOUTH.

During the operation a portion of the root was broken off and allowed to remain. From this time the parts were sensitive and easily irritated, and a few weeks later a small tumor developed which was probably cystic or soon became so, for, he says, it was opened many times by physicians and dentists, always discharging a thin water-like fluid, but never discharging any pus.

Six years ago it began to increase in size, but made slow progress till about two months ago, when a change came on rapidly, and at the time he entered the University Hospital, March 14th, 1895, the growth had extended forward on the lower jaw, nearly to the median line, backward to the angle and well up the ramus, pushing the tissues of the cheek prominently outward. There was an opening in the central portion of the tumor, from which flowed a thin offensive fluid; the patient stated that some small pieces of bone had been discharged through the opening, but no trace had been discovered of the offending root. All the molar teeth on that

side have recently been extracted, and their place is now occupied by the growth.

A probe inserted in the opening revealed the fact that some fragments of bone still remained, which would undoubtedly come away soon if the tumor is allowed to pursue its course unmolested.

Excepting these, a large portion of the bone seems to be destroyed or displaced by the growth.

Excision of the right half of the lower jaw, together with the outlying parts of the growth, offered the best chance for a cure, and the patient promptly selected this course.

The operation did not present any unusual points of difficulty, except that the bone was easily broken at the point of disease, making it much more difficult to remove the ramus.

Recovery has promptly taken place, and at this time he is well. In this case is found, what was at first a very simple tumor, a dentigerous cyst or epulic growth, after many years of irritation changing to a sarcoma. The dread which the physician, dentist or patient may have of operation, or their faith in medical measures, probably were responsible for the delay which had allowed this change to take place. This case is an earnest appeal to early and complete removal of all tumors of the mouth, except in those cases where the growth is not irritated, remains stationary, and can be frequently seen by the surgeon or dentist in charge, and operation advised, when the slightest change for the worse takes place.

Sarcomatous tumors of the jaw may be removed with a reasonable hope of cure when the growth is central (myeloid sarcoma), if the entire bone to which the disease is confined be removed. Periosteal sarcoma does not promise such good results, because the surrounding tissue may be involved, but these tumors come early in life when the patient is vigorous and will rapidly recover from operations. In all tumors of this class, not only the jaw should be removed to the median line, but the entire periosteum and attachments of muscles must also be taken away, if we operate with any expectation of a cure. Another tumor of the mouth, remarkable because of its slow growth and change, occurred in a patient who entered the University Hospital in June, 1894, during my term of service in the clinic.

Mrs. D., sixty-six years old, was for many years troubled with catarrh. Twelve years ago she first noticed a growth in the hard palate to the left of the median line. She was wearing a plate at the time and believed that it may have irritated the mouth and thus caused a tumor to develop, at least the irritation was soon so great that she could not wear it.

The tumor probably began in the hard palate or the floor of the left antrum; was a very slow growth till a few months since, when it began to rapidly increase in size. It involved all the border of the left maxilla, nearly all of the hard palate and much of the soft palate. The left antrum and the nasal passages were filled by the extension of the growth upward. It projected so far downward that the mouth could scarcely be closed. An exploring needle passed in the tumor did not come in contact with bone where the border of the maxilla and the hard palate should be found. A portion of the tumor was excised for microscopical examination and the pathologist reported carcinoma.

The malignant nature of the tumor and its certain fatal result if allowed to remain, together with the danger of a return of the disease if the tumor was removed, were all explained to the patient. She expressed a strong desire to have the operation made, and it was done, Professor Nancrede kindly assisting me. Tracheotomy was first performed, and the larynx packed with a sponge, that we might continue the anesthetic and the operation at the same time, without having blood enter the trachea, as it certainly would with the severe hemorrhage we must encounter unless such means were taken to prevent it. An incision was carried from the middle of the lip upward to the left of the nose and under the left eye, the flap was then reflected to give sufficient room for cutting the bone. The alveolar portion was first divided in the median line, then the molar and nasal portions, after which the diseased part was torn from its resting place by the lion forceps. The alveolar border was cut away at least one inch to the right of the median line, and all the surface from which the growth was removed was scraped with a curette to remove any small particles of diseased tissue that might be remaining. Hemorrhage was stopped by means of the Paquelin cautery, and the cavity was packed for forty-eight hours with iodoform gauze.

The patient made a good recovery, and returned to her home in a few weeks, free from pain and relieved of the presence of such a tumor. When last heard from she was entirely well. The disease in this case may return, but not for some months. During this time she will be free from pain, and death may result from some other disease.

Here is another case illustrating the proper method of operating for carcinoma when the surgeon sees his case early.

Mr. W. H., farmer, has been a moderate drinker, enjoying good health. Three weeks ago he first noticed a small growth on the under surface of the right side of his tongue; it was closely connected with the surrounding tissue, growing rapidly and pain-

lessly. A small portion was excised under cocain anesthesia, and submitted to microscopical examination. October 17th, 1894, he was operated on in professor Nancrede's clinic, one-half of the tongue being removed well back to the base. Rather a heroic operation for a small growth of three weeks' duration you may say, but here is the pathologist's report: "I have made sections of the growth from the tongue already reported as epithelioma, and as far as I can see you have gone well outside of the disease." This extensive operation was the only hope of cure for this man, even then the lymphatic glands may have been involved, and the return of the disease may be noted at that point, while the scar surface remains healthy. Cancer appearing in the mouth can scarcely be mistaken for any other growth, and there is never any difficulty in removing a portion to confirm the diagnosis, then prompt and thorough removal is the only chance for cure. When any lymphatics are found to be suspiciously enlarged, they must also be removed at the same time.

Mechanical devices to take the place of parts removed or to correct deformities following operations for malignant disease should not be applied for some time after complete recovery, because of the danger that such irritation might renew the disease. When the cicatrices are well formed or the diseased condition is not malignant nor beyond the bone, this point may be disregarded and the deformity corrected. The use of medicine in the treatment of malignant tumors is not to be considered where operation is possible but may be tried as a last resort. Coley, of New York, has recently reported thirty-five cases treated by injecting the combined toxins of erysipelas and the bacillus prodigiosus. In five of these cases he has reasonable hope of a permanent cure. All of his cases were inoperable and the diagnosis was verified microscopically. The investigations being carried on at the present time concerning the causes and treatment of these tumors certainly promise great results.

While we wait for these promises to become truths, let early and complete operation be the leading treatment of all tumors of the mouth, then few of our patients can say:

"Oh, that comfort comes too late,
'Tis like a pardon after execution;
That gentle physic given in time had cured me;
But now I am past all comfort here but prayers."

Dental Register.

A Dublin doctor lately sent in a bill to a lady which ran thus:
"To curing your husband till he died."

C. Med. Journal.

OCCLUSION AND MASTICATION.

Dr. W. H. H. Barker, Huron, South Dakota.

In occlusion every tooth except the lower central incisor and the third molar impinges or rests its occluding surface on at least two of its fellows in the apposing arch, and each in its own arch, except the third molar, impinges on its mesial and distal surfaces with the same number of its fellows in its own arch.

On these two facts are based many laws which should never be ignored in any operation in the oral cavity, so far at least as the teeth are concerned.

One of these laws, and the one that perhaps is the least considered, is that of facial expression. There cannot be a perfect face where there is a malocclusion. No part of the face is so subject to change as that bounded by the maxillaries. Infancy, youth and old age proclaim these truths.

Often malocclusion prevents clear, distinct and perfect articulation, and allows a disarrangement of the whole apparatus. Elongation, or protrusion are marked features, and most seriously interferes with the free movements of the lips and tongue, and these in turn interfere with enunciation to such an extent that in many cases the voice is marred beyond recognition and almost beyond redemption. This is a feature that calls loudly for remedy at the hands of the dental surgeon, and should be much less ignored than it now often is.

It is a physiological law that the full development of an organ and its maintenance in a normal healthy condition is dependent on its use. Nature allows no drones, physiologically, and hence the work designed for an organ must be performed by it, or it suffers in consequence.

The dental organs are no exception to the rule. They are made for work, and hard work of the most severe and constant kind. That this work may be done rightly, and to its full extent, there must be no break in either arch, and occlusion must be perfect and complete. Malocclusion does not allow of either normality or healthfulness in the teeth, either as a unit, or as an aggregation; work is their life, and antagonism their salvation. In malocclusion, both, to some extent, are wanting, their office abrogated, and they must pay the penalty. Disease readily attacks a single member, or the whole of that arch, if not put to service, and the rôle of nature, is to expunge what is of no service. Among the many causes of malocclusion may be noted irregularity, a most fruitful source, happily in a large number of cases remedial. It is

seen in its worst form in a crowded condition, and is the result of a want of correspondence in the size of the teeth and jaws. Then comes the lack of the proper number, and results usually from loss of caries or extraction after the organ has developed and taken its place in the arch. Next, the wasting of the gums and alveolar processes from mercurial salivation, pyorrhea alveolaris, the impingement of salivary and sanguinary calculus, and other diseases, causing the teeth to change their positions, and to assume new ones.

Dental Review.

OXIPHOSPHATE.

In Alabama Society.

I am not a special advocate of the cements for permanent fillings, but I have one in my mouth, on the grinding surface of a molar, which has been there for four years. It was not put in by a dentist, but by a man who had never handled an instrument.

J. H. Crossland.

The cements are advocated and abused about equally. Only the oxichlorides destroy pulps. The oxiphosphates will not, if properly used. If an excess of glacial phosphoric acid is used with it, it may eventually cause the death of the pulp. The trouble is, that, like amalgam, it is so easy to use that the majority just scoop out a little decay and plaster it in.

Before you touch a cavity, apply the rubber-dam, never allow the saliva to enter the cavity, or it is useless to use germicides, etc. Use an antiseptic from the start. If the pulp is nearly exposed, do not use strong medicines, as crystals of carbolic acid, sulfuric acid, or chlorid of zinc, but use oil of cloves or campho-phenique, and you will have better results. Make a paste of oil of cloves and tannic acid, and toughen up the dentine.

I have never heard it said before that cement makes the enamel brittle. On the contrary, it improves the structure and fits it for gold. Dr. Browne said cement fails when not properly manipulated. That is true, and equally so of amalgam. Cement finished with amalgam, is a good thing for all deep cavities. You can use gold as a covering for the cement, and without making retaining pits, by using sticky cement and embedding gold in it, and completing the filling when it has hardened. As a lining over sensitive dentine, it may be brought nearly to the edge of the cavity. I do not call this capping a pulp. When it is actually exposed, I can only destroy. If it is nearly exposed, coat the bottom of the cavity with sandarac dissolved in ether, and then use your cement.

Dr. T. M. Allen.

FILLING ROOTS.*

The application of sulfuric acid for enlarging root canals I have practiced a few times in my professional career when I did not believe I could get into the root in any other way. It is an elegant thing. The acid exhausts itself on the tooth substance soon after you put it there, or before you can apply your aqua ammonia. It is but a short time before the acid exhausts itself, and it does no harm, as it is a good antiseptic.

J. N. Crouse.

I am convinced that the perfection of root filling is only relative, and the problem we have to undertake is to make the relation as near to perfection as we possibly can. We need not expect perfection in a root filling in the same sense that we expect it in a gold filling, which can be made moisture proof and solid throughout its substance. If a plastic filling is made, the question of importance is to get the necessary plasticity with the least amount of fluid or any other matter that will after awhile disappear, and the most serious objections in my mind to chloro-percha are that it is such an enormous shrinker, and it is so exceedingly deceptive in regard to its traveling forward under the churning motion of the instrument. It seems to me that eucalyptus extract affords a sufficient solvent, using a less quantity than of chloroform, and that it is very desirable indeed to use heat as an adjunct of plasticity; that is to say, by using heat as a promoter of plasticity less fluid will be required to produce the necessary plasticity. For this purpose we want a preparation of gutta-percha that is easily softened, least likely to be stringy or tough, and to pack as perfectly dead as possible; there is no preparation that answers as well as well-prepared gutta-percha. The point which Dr. Duncan made in this connection is important, that if we are filling a fine canal it is necessary to carry in a minute portion of the material to the apex and settle it down before we have a large mass in either the pulp chamber or canal, which may obscure our operation and prevent us from knowing whether our instrument is carrying it forward or simply running through it. Make a minute cone of Hill's stopping, having previously moistened the canal with eucalyptol. The less eucalyptol you have in the root the better, if it moistens the walls of the canal; then fasten an exceedingly minute cone of Hill's stopping on the end of the instrument. Warm it over the flame enough to make it plastic, and the instrument, to keep it so, then touch the little cone in the eucalyptol

*In *Dental Review*—Abstract.

bottle which will make it exceedingly plastic, then carry it into the fine canal, work it up out of sight, push it forward till the delicate sensation in manipulation indicates that it is gone to the end. Take another piece and proceed in the same manner, do so patiently till the canal is full, and you will know whether you have filled the small canal of the root.

Edmond Noyes.

MAKING ALL-GOLD DUMMIES.

A great many gentlemen have told me that they preferred to use on the lower jaw, where it is not seen, gold dummies. We all know that in making gold dummies with a porcelain front they fill them in at the labial side in the cap with gold, that makes them very heavy. Where they are entirely of gold, they are heavy. My method is to form these dummies hollow. You can take a crown—I prefer a seamless crown that is stamped out of one piece of gold. You can do it with one of those crowns you can purchase, you can do it with a crown that is made with one of the machines now in use. The crown is shaped and fitted to the model as a dummy, and, if you intend to have it rest on the membranes, you can then remove it and place it—first, before that, though, I fill in the crowning surface with gold solder, or gold plate—the crowns that I use are alloyed with platinum—you can melt gold plate right in it and fill the space in. I always boil them out in acid. I never solder the crown. I don't want to melt them; it spoils any bridge-work. Don't be in such a hurry that you neglect to boil them in acid, and remove that flux from the inside. If you neglect that you are very apt to melt them when you solder on the outside. I remove that and then adjust this ball of solder in the center of the flame and then heat it up to the melting point, the solder flows down and runs along the plate, and the moment it strikes the edges it firmly unites. The point has been brought up. "Is that hermetically sealed up? Does it leak?" To an educated man I should think it is not necessary for me to say it is hermetically sealed, because we all know when you heat that to a certain point, to a red heat, you will exhaust almost entirely the air. When you heat to a dull red heat your solder melts, then you heat it up a little further and the solder flows over to those edges, and as the crown cools, the solder cools, and the entrance is instantly stopped, and hermetically sealed—just as a housewife, as you all know, takes a jar of preserves and fills it up with boiling water and seals down the top. Make the form in this way. This is to make

a certain rim that I have not heard much said about, but which I see in many men's work, and I practice in my own work. It is all right to restore the teeth in form, but I prefer to favor the grinding or ocluding surface of a dummy always; consequently from the palatal to the labial side I always reduce the dimensions of it slightly, about in proportion as you see there; that is the normal average size of the tooth (illustrating), and that would be the proportional size, as a rule, I would form my dummy.

There is something else in that. It lessens the curve of the self-cleaning surface. It is very desirable not to have too much curving in. If that was a long tooth it is very apparent that an immense slot would be formed by making the dummy as wide in proportion as that.

Geo. Evans.

GERMAN SCHOOLING.

Dr. R. H. Hofheinz.

The world knows the value of German schooling. The scholar is not only found among the professional men, but he is easily detected among all classes. Literary knowledge is particularly widespread, and I believe that Shakespeare is nowhere more read and better understood than in Germany, where the translations of his works are reckoned among the masterpieces of literature. It is a known fact that the German commentaries on Shakespeare's writings are as great, both qualitatively and quantitatively, as are the English. There is scarcely an educated German who is not master of at least one, and frequently two languages, besides his native tongue.

This thoroughness of education makes itself felt, especially among professional men. A medical man is not only conversant with his professional literature, but he has a broad knowledge in almost every branch of science, the training previous to his entry in the university ensuring this, and I know many a medical student who, aside from his medical lectures, attends those in literature, astronomy, or some other science. But the question which particularly interests us, is: Do they have better medical and dental men than America?

First of all, how do medical men get their education? The boy at about the age of ten enters the "gymnasium," where he remains nine years, the general studies therein being: Latin, Greek, French or English, arithmetic, its related branches, the natural sciences, etc. After making the *prima*, he is ready to enter the university as a medical or dental student. The medical

student must take at least ten semesters; usually, however, he takes eleven. The winter semester lasts from October to April; the summer semester, from April to July. After the fourth semester the student commences his "tentamen physicum." The first four semesters are devoted to the preparatory branches—physics and chemistry principally, the natural sciences, anatomy and physiology.

After passing the "physicum," the second part, known as the "clinical semesters," begins.

The fourth and fifth semesters are devoted to the lectures on pathology, therapeutics, anatomy, and such technical skill as required in percussion and auscultation.

After passing these branches the student enters as "practicant" in the different clinics, and at the beginning of the tenth semester he must be ready for examination. Physiology is usually taken "repetendo" during the eighth and ninth semester.

Dental Practitioner.

THE TONGUE.*

Dr. Garrett Newkirk: We have not much to do with the tongue in the way of therapeutics or operations. It does not bear such a very practical relation to our work, yet it is an organ we ought to be pretty familiar with. We have it under our observation a great deal, and we ought to be sufficiently cognizant with its conditions, and what they mean, so that we may know occasionally when to refer a patient to a physician if we do not feel like prescribing for him ourselves.

Nothing is smooth till the tongue says so. This is well worth bearing in mind in the shaping and insertion of our fillings, also in crown- and bridge-work. Everything should be left in such a finished state that the tongue will say that it is all right.

Dr. Louis Ottofy: It is said that if an adult should lose his tongue by having it removed in course of an operation, that the unpleasant sensation of the loss is never overcome. The constant consciousness of the absence of the tongue in the mouth is something that horrifies at all times.

Dr. W. A. Stevens: I must say the sense of taste is not altogether in the tongue. Those who are tea, whisky or wine testers take any of these substances into their mouths any time, and let it touch the tip of the tongue only, then spit it out, but inhale the flavor,

* *Dental Review*—Abstract.

and tell the good from the poor. But the moment they swallow any, and it comes in contact with the fauces or the posterior part of the tongue, it is impossible for them to tell whether it is good or poor. It also hardly seems that the sense of taste is entirely in the tongue, for the very moment that whisky, coffee, tea or any liquor touches the fauces the sense of taste becomes obliterated if the liquid is swallowed. If you are going to buy tea or coffee, and want to test its quality, I defy any man to tell whether it is good or bad if he swallows it; but if he takes the tea or coffee and chews it, keeping it between his lips and teeth, then spits it out, he can tell whether it is good or poor.

The question, quite recently, has been raised regarding the internal application of medicines. It is said that if a drug is dissolved in the mouth, on the tongue without being swallowed, its therapeutic effect will be quicker than if it is introduced in the system in the usual way, except hypodermically. This theory has been advanced the past winter by some.

Dr. Cushing: I understood Dr. Stevens to say that he did not believe taste resided in the tongue, and it seems to me all his arguments went to prove that it resided decidedly in the tongue.

Dr. Stevens: My remarks had reference to tea, coffee, etc. I said that if you chewed it, then spit it out and did not swallow it, you could tell good tea from bad all day. I believe the sense of taste is situated farther back in the throat. You smell a strawberry, you do not taste it with the end of your tongue. I do not think any of you, if your eyes were shut, could tell the difference between a cabbage and a strawberry by trying to taste it with the tip of your tongue, but the minute you open your mouth and let air enter you can tell whether it is a strawberry or a cabbage. Another explanation of this point. I knew a gentleman, a manufacturer of whisky who never drank it. He could tell—by taking a little whisky in his mouth and working it between his lips and spitting it out, then opening his mouth and breathing—the age and the quality immediately. But he told me that if he swallowed any he could not tell the poorest whisky in the distillery from the best.

Dr. Ottofy: The point that Dr. Stevens raises has not been fully determined by physiologists. We know that there is a direct nerve of taste for the tongue, and that in addition, the glosso-pharyngeal nerve which is distributed over a large area also contains fibers of taste. There are undoubtedly fibers extending forward on the hard palate which are endowed with taste. Some claim to have isolated these fibers of taste, but I believe this point has not been satisfactorily determined.

Dr. Stevens: It has been claimed by some prominent homeopaths that if medicine is dissolved on the tongue it will have a more rapid effect on account of its absorption through the tongue, and the medicine will enter the system more rapidly in that way.

Dr. G. V. Black: The tongue is an ugly organ to deal with, and I have always found it slippery. It is a fact that sensation and nervous phenomena are produced by dissolving very harmless things on the tongue. A nervous impression may be produced and the effect will be considerable without any medicine having been used at all. By giving medicines, dissolving it on the tongue or injecting it by hypodermic syringes, for producing local insensibility, we do more than administer the medicine. We prepare the nervous system of the patient to receive the remedy by the tongue, or hypodermically, and in this way heighten and intensify the nervous impression, and often get results through mental process. Tea and whisky testers fail to distinguish between the sense of smell and the sense of taste. In making these tests by taste, as it is said, they use both the sense of taste and the sense of smell, and their judgment is made up by a combination of these two senses. They open their mouths, throw the tea or whatever they are testing back in the pharynx, it comes forward then in the posterior nares. There they get a sensation that is of value in making up their diagnosis of the case.

As to diseases of the tongue they are very important and very ugly to deal with. I recall having been consulted in four instances within the last year as to diseases of the tongue, resulting in three deaths, and the fourth one will die in a short time. Three of them were cancerous, one an infiltrating sarcoma, which might as well be cancer. These cases belong to surgery, but are very interesting to us, and it is an important fact that more than one-half of the cases of cancer that occur in the human family, all told, occur about the lips and tongue. The probability seems to be that rough margins of teeth that are broken, stumps of teeth, etc., furnish, by the irritation they produce, the nucleus, as it were, for the implantation of a large proportion of these cancerous growths, making it very important to us that we do not allow irritations of this sort to go on in our patients' mouths. If there is a rough corner of a tooth which is irritating the tongue it is extremely important that it should be remedied at once, and so on with any point of irritation. In my last operation where I removed a tumor from the lower jaw of considerable magnitude, simply rough spicule were evidently the cause. There had been several operations performed.

Another instance, where the patient has since died, seems to have been due entirely to the irritation caused by the stump of a

lower bicuspid which had been left to dangle in the mouth, causing an irritation of the side of the tongue. Implantation of cancerous growth of the tongue occurred, which extended from the tongue to the floor of the mouth. A large proportion of these cases come from such causes as these.

Dr. Taylor: The sense of taste is a compound sense. If you take a sweet first in the mouth, thoroughly coating the tongue, you can swallow bitter and not get the sense of bitter. The sense of taste is spread out over different parts of the tongue. The taste for sour and sweet is in the tip of the tongue, while that for bitter is in the posterior part of the tongue. As to the taste of whisky, I do not know anything about it. I have to take Dr. Stevens' word for it.

A MALIGNANT TUMOR OF THE MOUTH.

E. L., a man thirty-three years of age, entered the University Hospital in March, 1891, and gave the following history: In July of 1890 he had noticed a small growth on the inferior border of the lower jaw, which corresponded to the position of the first molar tooth. Early in October two teeth were extracted (whether by physician or dentist I do not know), under the impression that at the roots of these would be found the cause of the trouble and that it could be easily removed, but, instead of improvement, there sprung up from the alveolar process a mass which rapidly increased in size till nearly all of the right half of the lower jaw was involved. The growth soon began to break down, while the discharges and sloughs from this suppurating mass were not entirely expelled, but portions were swallowed and taken into the lungs causing a rapid decline in the patient's health. The diagnosis of rapidly-growing sarcoma was made, and on March 30th, 1892, the first operation was made; removing a little more than half of the lower jaw. The parts healed promptly, and in three weeks the patient left the hospital apparently cured.

Three weeks later, however, he returned with the disease well-advanced in the remaining portion of the jaw. This was promptly removed, together with the floor of the mouth, well down to the base of the tongue. June 10th, 1892, he again returned to his home and no change for the worse was noticed for two months, when nodules began to develop on the right side near the old scar. These continued to increase in size and join together till quite a bulky tumor was formed. For the third time he came to the hospital; again it was decided that operation might give relief, though the

tumor now extended well up toward the temporal region, involving nearly all branches of the facial nerve and reaching downward along the carotid vessels. After a tedious and dangerous dissection, which lasted more than two hours, the growth was successfully removed.

Again the patient made a good recovery, and died about two years later from the effects of sarcoma in the lungs and kidneys. During this time he was remarkably free from pain, and seemed to enjoy life. No great deformity was caused by this extensive operation, and he could speak nearly as distinctly as before, though the entire lower jaw and the floor of the mouth were removed.

C. G. Darling, in Dental Register.

LONGEVITY AND ACTIVITY.

An item in an exchange reminds us that great men usually carry their full mental vigor and activity into their great old age. M. Chevreul, M. De Lesseps, Gladstone and Bismarck are evidences of this anthropological fact. Pius IX, though living in tempestuous times, reached a great age in full possession of all his faculties, and the dramatist Crebillon composed his last dramatic piece at the advanced age of ninety-four years, while Michael Angelo was still composing his great canvases at the still greater age of ninety-eight, and Titian at ninety still painted with all the vigor of his earlier years. The Austrian General Melas was still in the saddle and active at eighty, and would have probably won Marengo but for the inopportune arrival of Desaix. The Venetian Dodge Henry Dandolo, born in the beginning of the eleventh century, and having lost his eyesight through the treachery of the Greek Emperor, Manuel, when a young man while on an embassy to Constantinople, was, nevertheless, subsequently raised to the highest office in the republic, and though blind still managed successfully to conduct various wars, and at the advanced age of eighty-three, in alliance with the French, besieged and captured Constantinople. Fontenelle was as gay spirited at ninety-eight as in his fortieth year, and the philosopher Newton worked away at his tasks at the age of eighty-three with the same ardor that animated his physical prime. Cornaro was as happy at ninety as at fifty and in far better health at the age of ninety-five than he had enjoyed at thirty. These cases all tend to show the value and benefits to be derived from an actively cultivated brain in making a long life one of comfort and of usefulness to its owner. The brain and spirits need never grow old, even if our bodies will

insist on getting rickety and in falling by the wayside, but an abstemious life will even drag that old body along to centenarian limits in a tolerable state of preservation and of usefulness.

The above list can be lengthened out with an indefinite number of names, but it is sufficiently long to show what good spirits and an active brain will do to lighten up the weight of old age. When we contemplate the Doge Dandolo at eighty-three animating his troops from the deck of his galley, and the brave old blind King of Bohemia falling in the thickest of the fray at Crecy, it would seem as if there was no excuse for either physical, mental or moral decrepitude short of the age of fourscore and ten.

National Pop. Review.

WEDGING TEETH WITH RUBBER.

This is still probably the most common way of obtaining the necessary space for making proximal fillings, and is the means of inflicting much unnecessary pain. The practice of inserting the rubber to be worn for days, and sometimes weeks, before operating on the teeth, is cruel, barbarous and unscientific. The object is just as thoroughly accomplished in a few hours, when gutta-percha may be pressed tightly between the teeth that have been forced apart, which will retain the separation and allow all periodontal disturbance to heal.

Our practice for years has been to have the patient adjust the rubber early in the morning, and report to us at five o'clock in the afternoon for the gutta-percha substitute. The thickness of the rubber supplied the patients is determined by the space required. The gutta-percha is worn for ten days or two weeks, when all soreness has entirely disappeared. The gutta-percha serves the double purpose of retaining the space and pressing away the gum from a cavity which extends well down toward the cervical margins. The cavities are partially prepared, the dam applied, and a separator adjusted to hold the teeth firm during the introduction of the fillings. We know of no more satisfactory means of separating temporarily, and none less free from pain or danger.

Register.

To repair flexible rim of inhaler, make a cement by cutting black rubber in carbon-bi-sulphid. Paint the rim two or three coats, and, when dry, rub over with powdered soapstone.

C. S. Talbert.

FILLING CHILDREN'S TEETH.

Children's teeth should be treated in a human manner. Gain their confidence if it requires a dozen visits before doing a thing for them. Begin early with their temporary teeth. Up to four years of age, these are not very sensitive, but after that, decalcification begins, and they become more sensitive. I do not agree with the essayist, when he says give them coarse foods to masticate. Their little teeth are not capable of crushing hard substances. While the calcification of the roots is incomplete, they are not strong enough to bear the pressure, and after absorption begins, the edges of the roots have jagged, sharp points. They can not eat such food, and when given it, alone, they can only bolt it whole; and dyspepsia follows. When the sixth year molars erupt, the roots are in the same incomplete state. Do not fill these teeth with gold. You will break the child down, and fail to preserve the teeth. And do not use amalgam, as the teeth are soft and will be discolored by it. Use the cements and gutta-percha, replacing when necessary. You will, in this way, make a life-long patient for yourself, or some one else. Use every effort to save the pulps till calcification has been completed. If the pulp is allowed to be devitalized from neglect, or from your applications, before the roots are formed, the apex being funnel-shaped, with the enlargement the wrong way, your applications or your filling material will go through, and you may have necrosis or other serious trouble. A knowledge of physiology, histology and embryology is necessary for the dental operator, if he would avoid serious blunders.

Dr. T. M. Allen.

CARBON DIOXID FOR REFRIGERATION AND FOR EXTINGUISHING FIRES.

Pipe-line refrigeration has come to stay, and will eventually displace ice for nearly all purposes. Carbon dioxid is superior to and cheaper than the anhydrous ammonia system of refrigeration, and has also other valuable properties which could be utilized were it delivered to the consumer from a central station, as is our illuminating gas, and water. It is comparatively a harmless gas, being a necessary constituent of many articles of food and drink. It is the best refrigerant known to science, capable of producing a temperature of 100 degrees Fahrenheit below zero in a very few minutes, thus making it valuable in some chemical operations where ammonia could not be used. It is odorless, and neither inflammable, corrosive nor explosive, and also a good preservative of furs and woollen goods, protecting them from the ravages of insects. The gas is already used in the portable fire-extinguisher,

but would be better adapted and prove more effective in the protection of property if drawn from mains like water. Its advantage for fire extinction is that the heat produced by the fire assists in its own extinction by inducing a current of mixed air and carbon dioxid to flow to the point of combustion, thereby wiping out the fire just as water would be wiped off from either a vertical or horizontal surface with a dry sponge. An automatic thermostatic system to use carbon dioxid has been devised by the author of the paper here abstracted. At the central station the raw materials required for the production of the gas are soft coal and limestone. The products of the combustion are carbon dioxid, commercial lime, to be sold in the market, and coal tar. The consumer receives the gas through a meter, and can use it for refrigeration, charging water, ale, wine, etc. It can also be used for small motive powers, where the heat extracted from substances cooled contributes to the power required. One ton of soft coal and three and one-half tons of limestone will produce three thousand five hundred pounds of lime, three thousand pounds of carbon dioxid, six to seven gallons of coal tar and forty to fifty pounds of carbonate of ammonia.

Stationary Engineer for July.

DON'T BE DOGMATIC.

No two minds run in the same channels, or think exactly each other's thoughts. Truth is many-sided, and multitudes of men and women stand still, viewing continually but one of her phases. Did they but move around her, changing their respective attitudes, they would appreciate one another far better. Excellent people sometimes regret that there are so many differences of opinion on a single subject. If all were agreed, they say, how smoothly and harmoniously might all work together for the general good! They forget that, were this possible, there would be no consensus of truth, no gathering together of its many features, no comparison of its many aspects. It is just this mingling of sincere convictions that enables men to correct their fallacies, to retrieve their blunders, to arrive at something, likewise judgment and correct conclusions. Yet we chafe and fret at these very differences, and attribute to them many of the evils which really belong to our unwillingness to recognize and accept them. Too often irritation, ill feeling, and even anger arise from this innocent cause. Interchange of opinion, whether in ordinary conversation or in discussions and debate, is among the most instructive and valuable means of forming true opinions, yet often it is poisoned by a dogmatism that will brook no contradiction and a temper which regards all dissent as a personal affront.

Philadelphia Ledger.

PRACTICAL POINTS.

Packing Pyorrhea Pockets.—If the patient is not to be seen for several days between sittings, after the thorough removal of deposits, pack the pockets with beeswax prepared as follows: Soften with hot water and incorporate sulfate of zinc, forming a paste which will not dissolve with the heat of the mouth, but will retain its form and antiseptic properties for many days; it will keep saliva and food out of the pockets and encourage healing from the bottom, the paste being forced out as granulation progresses.

W. X. Sudduth.

Green Tartar.—Nitrate of silver, applied in its incipency, acts as a specific in the removal of green tartar.

Geo. J. Freidrichs.

To Open Up a Blind Abscess.—With a small swab apply a drop of trichloracetic acid on the gum over the apex of the root; twist the swab gently, applying more acid till you reach the alveolus; with a spear-pointed drill go through the alveolus to the sac; with a swab apply carbolic acid (Calvert's No. 1, full strength), thoroughly permeating the tumor; if necrosis is present enlarge the opening and get direct contact with the diseased bone; syringe out the tract with pyrozone, and pump in concentrated lactic acid; saturate a small tampon of cotton with campho-phenique and aristol, and leave in the opening for two or three days till connective tissue begins to form.

A. C. Hart.

Amalgam and Gold Combination Filling.—Fill entirely with amalgam; with fissure drill cut around the margin and finish with gold.

C. M. Carr.

Soft Solder in Crown-work.—In very badly-decayed roots, to secure a perfect joint between dowel and canal, excavate the root carefully; then insert a piece of small wire in the center of the canal and pack gutta-percha around it; when cool, withdraw and invest in equal parts plaster and marble dust; when hard, remove the gutta-percha; dry the mold and heat till it will fuse ordinary tin solder, with which fill the mold; coat the porcelain of the selected Logan or other dowel crown with sweet oil, and the pin with a solution of zinc chlorid; heat the pin and insert in the mold containing the soft solder, and cool immediately; by adhesion of the tin solder to the platinum pin a dowel is formed, which fits the root canal so exactly that very little cement is required.

F. T. Van Woert.

Combination Oxiphosphate and Amalgam Fillings.—

Place on the slab the required quantity of fluid and powder; make a soft mix of amalgam; then make the zinc phosphate mix, and introduce in the cavity pressing it against the walls; then place a portion of the amalgam in the center of the zinc phosphate, and with it work the cement out to thin edges at the edge of the cavity; add more amalgam, and work the combined materials out to feather edges; the zinc phosphate forming an adherent perfect lining, and the amalgam combine a perfect covering. *J. Foster Flagg.*

Local Anesthesia.—For small operations spray the parts with

R.—Chloroform.....	10 parts.
Ether.....	15 “
Menthol.....	1 part.
	* * *

Combination Gold and Amalgam Fillings.—In large proximal cavities adjust a matrix and partially fill the cavity with amalgam; cover with gutta-percha; remove the matrix and dismiss the patient. At a subsequent sitting remove the gutta-percha; make retaining pits in the amalgam and complete with gold.

A. C. Hart.

Treatment of Teeth with Putrescent Pulps.—At the first sitting open in the cavity only. At the second sitting wash the cavity with absolute alcohol; saturate a pellet of cotton with the same and place in the cavity, sealing with cotton saturated with chloro-percha. At the third sitting drill out the root canals. The two essential points in filling the canals are asepticism and closure of apical foramen.

D. D. Atkinson.

Relief of Headache Following Dental Operations.—One drop of nitro-glycerin (one per cent solution) in half a glass of water will give prompt relief in many cases. *E. H. Bowne.*

Rubber-dam Punch.—Pierce the hole with a red-hot needle—an old syringe needle answers well; when the hole is made in this way the dam will not tear; the edges of the hole being very strong, and it hugs the tooth closely, doing away with the ligature.

R. C. Young.

To Band a Logan Crown.—Prepare the root and fit the band to the root as usual; then heat the band red-hot, and burn it in the wood floor of the Hollingsworth contouring press sufficiently deep to preserve the shape of the band as fitted to the root, while, with the screw of the press, the crown is forced down in the band, a hole having been first burned or reamed in the wood to receive the pin of the Logan crown.

Thos. P. Hinman.

Solid Dummy Crown for Bridge-work.—Make a gold shell

crown; fill it with cement and solder on the other end. The more you heat it the harder the cement gets. *W. G. Browne.*

To Sterilize Napkins, Towels, etc.—Place in a drawer beneath the one containing your napkins, etc., formalith tablets. The evaporation of formalin sterilizes everything with which it comes in contact. *T. P. Hinman.*

Gutta-percha Fillings.—Dry the cavity thoroughly and saturate the walls with common resin cut in chloroform; then press in heated gutta-percha; it adheres like cement; is excellent in the mouths of children and in shallow cavities. *J. P. Gray.*

Visible Bunsen Flame.—Bend a loop of platinum wire and solder the two ends to a flat brass ring, and slip over the tube of the alcohol lamp burner; with the wire at white heat the flame is rendered visible without interfering with perfect combustion, thus preventing accidents from the otherwise invisible flame. *Harry Borhard.*

Treatment of Exposed Pulp in Deciduous Teeth.—Apply carbolic acid for a few moments and remove the bulbous portion; cap the remaining portion with equal parts camphor and iodoform mixed with glycerin; leave a good portion in the bottom of the cavity and fill over it with oxiphosphate. * * *

Root-canal Filling.—

R.—Chloroform..... 3ss.
Gutta-percha,
Resin.....āā 3j.

Let stand two or three days before using.

Pump in the root canal and force in gutta-percha points; the nerve canal is thus filled moisture-tight and gas-tight, and the apex and mouths of tubuli sealed perfectly. *M. D. Goble.*

After-pains of Extraction.—"Campho-phenique is invaluable for application to sockets after extraction; its effects appear magical in relieving pain; I value it even more as an obtundent than as an antiseptic." *A. T. Peete.*

To Prevent the Cements from Sticking to the Instrument and in Packing it in.—Keep handy a cushion of chamois skin slightly oiled, over which run the instruments quickly. *Dr. Bogue.*

Relief of Local Trouble Following Removal of Malposed Wisdom Teeth.—Hot fomentations in the mouth, with a compress of cold water or "Pond's Extract" to the outside, keeping the cavity clear of any accumulation of putrescent matter by syringing with warm water or hydrogen peroxid, and the application of antiseptic dressing. *J. D. Thomas.*

OUR QUESTION BOX.

With Replies From The Best Dental Authorities.

[Address all Questions for this Department to Dr. E. N. Francis, Uvalde, Texas.]

Dr. Earl D. Eddy, of California, sends the following in answer to a question in back number of ITEMS. The question referred to aching, deciduous teeth.

I am able to manage these little people very well. I nearly always cleanse, treat and fill these teeth. It sometimes requires a second visit to be certain of pleasant relations for the future, but never mind if you are paid for the time expended. If I fail to gain the confidence of a child sufficiently to accomplish what ought to be done, I anesthize with pental and remove the tooth as being the least of two evils. I say anesth (et) ize because it is wrong to plant in the mind of a child the horrible dread of torture sure to be the result of extraction in the old way. I mention pental as the proper anesthetic because it is safer than Dr. Bonwill's rapid breathing, and does not take half the time.

Earl D. Eddy.

The following is an extract from a letter received from Dr. D. W. Barker, of Brooklyn, N. Y.:

I have noticed in the ITEMS lately several paragraphs regarding the remelting of waste amalgam.

I infer that some one thinks it worth while to save and work it over. If so, then it must be worth while to economize in gold waste. * * * *

In most operating-rooms there is some gold filling done every day, and in every filling there is some waste in the form of fine particles cut off in finishing with the disk, strip, bur and file. They are too fine to be caught in any way, and falling to the floor, are lost.

I do not mean particles of sufficient size to be easily seen or picked up with pliers.

To get my meaning, have the dust swept from the office laid aside, and then go over it with a good magnifying glass, and you will find it full of glittering particles. Cannot the sweepings be refined and the gold recovered? And then, too, the dust remaining in the carpet * * * * * I read, some time ago, of a dentist who sent his old carpet to the refiners, and received enough gold and silver from it to pay for a new one, and ten or fifteen dollars over.

No doubt, many an old carpet contains enough gold dust to pay for a new one. But the sweepings could be easily saved, and once in a year or two could be worked over. I submit the matter for your consideration.

Gold is money! We could suggest many ways of separating that gold from the dust, but would like to hear from readers regarding the simplest and least expensive way of recovering gold from sweepings. We think burning the sweepings and forwarding the ashes to the refiners, would be the most profitable way for the average dentist.

An old clothes peddler called at our office once, and as we had none to sell but those of present use he wanted old gold. We had none. He looked surprised, and wanted to examine our chair. The chair was a second-hand one, had been in use many years, and was old style, with padded back and

sides. The amount of gold he obtained from that chair would interest a speculator.

After that we purchased a Wilkerson chair, had a large oil-cloth about eight feet square placed under it, and all dust was easily removed, and the gold scraps and filings could not be imbedded as in a carpet. The oil-cloth not only saved our gold scraps but saved the wear on our carpet.

[Dr. Barker's hint is good, and we will be pleased to receive suggestions from our readers.]

Question 205. *I have a nerve that it seems impossible to kill with arsenic or any other preparation I have tried. I have met several such and have tried arsenic, chlorid of zinc, nitrate of silver, pepsin, and many other things without avail. In one case, after the pulp was thoroughly exposed, presenting a congested appearance, I was unable to extirpate. What shall I do with such nerves?*

At many times there is a dead film on surface of exposed pulp of sufficient thickness to prevent the absorption of arsenic.

To devitalize the pulp thoroughly, previous to removal, the application of carbolic acid or dilute trichlor-acetic acid will often allow you to remove the deadened surface of pulp and make the application of arsenic successful.

Question 206. *A patient came to me the other day with the six lower anterior teeth so sensitive at the gum margin that she could hardly drink cold water, and even in speaking the cold air was almost unbearable. I tried nitrate of silver, but it did no good. Treatment by friction was out of the question, so I rolled out a piece of platinized gold as thin as paper, and, without dressing the teeth, banded all six very tightly and cemented on, burnishing the gold to tooth and allowing only a small portion to show in front. This looks very neatly, and only required a very short time. So far it has thoroughly answered the purpose. Do you consider this good practice?*

The application of nitrate of silver with cement and metal covering is a good idea when it can be done without cutting or disfiguring the teeth.

A test for abnormal secretions at gum margin may indicate treatment favoring the removal of bands at some future time.

Question 207. *Will anesthetic used hypodermically, for painless extraction, loosen the teeth and cause them to be more easily extracted?*

Injections for immediate extraction can not loosen teeth. We all know that teeth are sometimes easily removed while the patient is under the influence of anesthetics that would be quite difficult under other circumstances.

The average dentist will place his forceps higher (farther under the gum) and grasp the tooth with more firmness if he can do so with unnecessary pain, and the use of a local anesthetic will often allow him to do so. This may lead you to think the tooth has been loosened by the anesthetic, but the tooth is anchored in bone, that can not be immediately effected by a local application.

Question 208. *Can you give me any information regarding acetanilid as an antiseptic?*

We think acetanilid will become a valuable addition to our dental *matéria medica*.

After experimenting on 1,000 surgical cases, Dr. Thos. S. K. Morton has written an interesting article, from which we copy the following:

The action of acetanilid on wounds, especially granulations, when used in full strength, is to produce intense dryness and blueness, and at once to check and prevent the formation of pus.

If a large surface is exposed to the action of the undiluted drug, toxic symptoms may manifest themselves in susceptible individuals. Under no circumstances does acetanilid irritate the skin or wounds, and all ordinary suppuration ceases in the presence of acetanilid, *even when much diluted*.

Abscess cavities, boils and carbuncles, when opened, and dirty and greasy wounds produced by machinery, generally heal without further suppuration and in an unusually short time under the use of acetanilid, applied either in substance or as gauze or ointment (1 to 8), or *dissolved in alcohol, water or oil* (as injection).

Tuberculous lesions appear to be affected in a much better manner by acetanilid than by iodoform.

Tuberculous bone cavities have healed rapidly under 10 per cent acetanilid gauze. Fistulas have instantly taken on a healthy appearance after injection of alcoholic, watery or oleaginous solutions of acetanilid, and have quickly closed.

It thus appears that pus microbes cannot exist in the presence of acetanilid, and the skin bacteria cannot multiply in its proximity.

This drug seems to have great possibilities of usefulness.

[We have taken the liberty to underline, for the purpose of calling attention to the form of mixture or strength best suited to dentistry.]

Question 209. *In upper dentures I have experienced difficulty in securing suction when tobacco was used very freely. Is tobacco the cause of loose plates; and is there any remedy for it?*

Have never realized that the use of tobacco had any effect whatever on the wearing of plates.

L. P. Haskell, Chicago.

There can be no direct action of tobacco as a means to interfere with the fit of artificial teeth; indirectly tobacco may have a tendency to so exhaust the power of the salivary glands that the mouth would be abnormally dry, consequently not enough saliva to flow between the dentine and roof of mouth, which is so necessary to create adhesion. A dry and rigid alveola arch is the most unsatisfactory condition to be found on which to maintain full artificial dentures.

C. H. Land, Detroit, Mich.

Question 210. *When should long ridge lap and short ridge lap teeth be used in full dentures?*

Have never seen a case where so-called lap teeth were needed. Nature never laps teeth over the gums. The neck of tooth should set close to the gum when short teeth are needed; when extensive absorption has taken place artificial gum takes the place of lost bone.

L. P. Haskell.

ITEMS.

I expect to find salol, recently introduced, very valuable in root filling. The fine powder is placed in the canal and liquefied with a hot point. On cooling, it crystallizes, making an insoluble filling.

W. G. Browne.

* * *

Roots are sometimes filled without the necessary cleaning of the interior. The plea is often made that root filling is not remunerative. This is not a valid excuse for such lack of thoroughness, and we protest against it as being unmechanical, unscientific and positively dishonest. Line up and do these operations better.

Harlan.

* * *

If you brush around a cavity with a little chloroform, oxiphosphate will stick to the tooth all right. If you smear the walls of the cavity with the liquid that comes with your cement, you will get absolute union between the cement and the wall of the cavity. I use it this way in setting crowns.

Dr. Gray.

* * *

If you begin to operate on patients in a trembling, hesitating, uncertain way, that suggests to them through the sense of touch or the sense of sight, or through any one of the senses they may employ, that you are pretty sure from the way you are doing that you are nearly killing them; you may think it does not have any influence, but I know it does, because I have tried it, I might almost say ten thousand times.

F. O. Hetrick.

* * *

Ulyptol belongs in the same category with steresol. It is occasionally mentioned as a "new antiseptic." It was originally named and introduced in 1886, and is prepared by mixing six parts salicylic acid, one part carbolic acid, and one part oil eucalyptus. It is also known as eulyptol, and the mixture is of service in treating wounds.

American Therapist.

* * *

The thirteenth annual meeting of the North Dakota Dental Society was held at Fargo, May 15th to 17th, 1895. The following officers were elected: President, Dr. H. L. Starling, Fargo; Vice-President, Dr. M. M. Lockerby, Grand Forks; Treasurer, Dr. L. E. Hunter, Grand Forks; Secretary, F. E. Ball, Fargo; Executive Committee, F. E. Ball, E. M. Peirce, C. B. Davenport.

This meeting was cheered and helped by the presence of Prof. L. P. Haskell, of Chicago.

Fred. E. Ball, Secretary.

My experience teaches me that plaster impressions give better fits than those taken in composition. I doubt if perfect accuracy is ever obtained with the compound. If you will adopt the dry or superheated steam vulcanizer, you will get plates that are five times as strong and elastic as when the water bath is used. It is a method not generally used, but is an excellent one. The Seabury vulcanizer is, by far, the best.

Dr. Crenshaw.

* * *

To blacken the surface of a strip of writing paper with a lead pencil affords a ready and efficient substitute for carbon paper. When it becomes necessary to grind a crown or dentine in the mouth, "drag" the paper slightly when closing.

B. F. Eshelman, D.D.S.

* * *

The next annual meeting of the Southern Dental Association will be held in Atlanta, Georgia, commencing the first Tuesday in November. Arrangements are being made for the greatest meeting in the history of the "Southern." The Cotton States and International Exposition will be in progress, and railroad rates will be very low. All friends will be given a hearty welcome.

E. P. Beadles, Cor. Sec.

* * *

THE METRIC SYSTEM.—Some time ago we drew attention to the disadvantages which wholesale manufacturers were subject to in their business relationships with the Continent. Though receiving orders for goods in quantities according to the metric system, they were warned that it was illegal to execute them in this fashion. A select committee has been inquiring into the subject, and as a result recommends that the metric system shall be at once legalized; that it shall be taught in all public schools, and at the end of two years be made compulsory.

British Journal.

* * *

As a lack of knowledge relative to the teeth and their preservation is confined to no particular class of people, how could we better disseminate this knowledge than through the far-reaching influence of the public schools? and as the number of pupils who attend the public schools is larger in the primary department, growing smaller with each succeeding year, to do the greatest good to the greatest number this education should begin very early in life, with the idea of making it quite complete by the time the pupil is ready to graduate from the grammar school; for a great percentage of the students complete their education with the grammar school, and in a great many places physiology, or any subject relating thereto, is not taught in the high schools.

E. P. Holmes.

Read reverently, but bravely; allow Emerson to differ from you. Bring for quotation the sentence you like best in essay or collateral reading—a short one. Be willing to write a paper if asked. Come to each meeting resolved to say something. Talk to the point; keep on the track, and look out for switches. Digressions are all right between two. They lead everywhere, nowhere with fifty. Remember that next to something to say, the secrets of good writing and talking are three; to think clearly, say simply, and forget yourself. Hold no corner conferences with your neighbor, on right hand or left, it is sure to disturb two others.

Emerson.

* * *

I have a very satisfactory way of using gutta-percha, which I have adopted recently. I dry the cavity and saturate it with common resin dissolved in chloroform, and put in heated gutta-percha. It adheres to the walls like cement. I have used it in my own children's teeth, where I can watch it closely, and it is very satisfactory.

Dr. Gray.

* * *

Dr. Bonwill says: Bad dentistry is responsible for pyorrhea and mechanical troubles which can be corrected. Bad articulation causes irritation and brings on the disease. The articulation is the first thing he looks to when a case comes to him. Much trouble would be saved if the dentist always saw that no hard particles, or even soft particles, were left around the necks of the teeth of their patients when they left the office. Much of this trouble might be prevented if proper tooth-brushes were used in the proper manner. Brushes should not be too wide, and they cannot be too stiff, and should be used not by drawing them across the teeth, nor even by a rotary motion, but by wiggling the brush so as to get the bristles between the teeth. This will prevent stagnation in these localities. In filling the teeth he makes all fillings plus contour, and has never seen a case of pyorrhea that he could attribute to any disease of the system. There has been a vast amount of discussion recently, started by Dr. Peirce, but nothing proving the disease to be of systemic origin. He had never had a case of pyorrhea in his original practice—that is, in a case where he had had charge of the teeth from childhood.

Cosmos.

* * *

You cannot dream yourself into a character. You must hammer and forge one for yourself.

Froude.

There is no specific bacteria of caries. *Mm. H. Welsh.*

* * *

We are always doing each other injustice, and thinking better or worse of each other than we deserve, because we only hear and see separate words and actions. We don't see each other's whole nature. *George Eliot.*

* * *

Five years ago I had an abscess from a central incisor. I lanced the gum, drilled in and cut off the end of the root, washed out and filled again. The tooth has not discolored, and there has been no return of the abscess. *A. A. Pearson.*

* * *

One fundamental cause of caries is the failure to exercise the teeth. Children are given soft foods and are allowed to grow up with but little knowledge of the most important function of their teeth. The result is a lot of dyspeptics with carious teeth, if any at all. *J. H. Crossland.*

* * *

Teeth must be separated so that we have freedom to work. I use cotton. It takes longer, but you can get space enough to contour. It may take a week to prepare the space, but it's the only way to succeed with them. These cavities usually come in pairs, and, by getting proper separation, you can restore the contour and bring gold against gold and save the teeth. *S. W. Foster.*

* * *

Young people's teeth are not completely calcified, the roots not yet formed. We know that there must be a large opening at the apex, and that if we force septic matter through, we will have trouble. In such cases we must guard against going clear to the end. We must not go beyond the small end of the funnel-shaped opening. We sometimes force air through, which the heat of the tissues expands, causing irritation and suppuration. *T. M. Allen.*

* * *

As to the durability of amalgam fillings, I exhibited, at Old Point Comfort, last summer, a tooth which had been extracted by Dr. Carpenter, of Atlanta, which had been preserved fifty-three years by an amalgam filling. The tooth and filling were sound, extraction having been necessitated by absorption. This was a proximal filling, too. *Dr. Crossland.*

EDITORIAL.

“AND BE YE THANKFUL.”

This is a choice disposition. It is the glory of the Christian, the power of a social life, and stock in trade to the business man. Everywhere, and at all times, and for every purpose, it is a charm; it is precious; it is wealth. He who has thankfulness has a merry heart and a merry life, whether in poverty or riches, in trouble or pleasure, in sickness or health. Let life be what it may; if you are conscious you are doing your best, take what comes with a cheerful heart. Grumbling will make it no better; rebellion and bitterness will make it worse, and despair will ruin you. There are somethings left to be thankful for. Make these prominent. Hug them, nourish them, make them a part of your life, and they will cheer and bless you. None of us are so badly off we could not be worse; and all of us have more of good than evil. Bring these good things to the front, and relegate the evil things to the rear, and be thankful your condition is no worse.

Sometimes the most thankful are those who have the least to be thankful for—the very scarcity of their good things makes them luxuries—and the most unthankful are those who have all things in such abundance that nothing is a luxury. The way these latter talk and act and live is disgusting. Nothing goes right with them, and therefore everything goes wrong, including themselves. They are very exacting, petulant, fault-finding—have hardly a good word for any one, and appreciate nothing done for them. They receive nothing from God or man with thankfulness, for there is nothing quite good enough for them.

The unthankful persons are to be both pitied and blamed, and certainly they are to be avoided and forgotten. They deserve nothing and should have nothing but isolation. The ungrateful wretches are a pest to any community, an offense to benevolence, and most unwelcome to all good society. Anywhere, and at their best, they are only tolerated. What a curse they are as a life companion, as a business partner, or even as a common friend. You cannot fit them in anywhere, or any how, or for any purpose, at

any time. I wish they would kill themselves, instead of living to kill the harmony and pleasure of society.

Be thankful even for small favors, for the most insignificant gift or attention, for even intended favors. Be thankful that you have something to be thankful for, and that you have no more evils. Be thankful you are thankful, for no one reaps a greater or better harvest from this world's wide field than the thankful.

Even weakness is strengthened by thankfulness, burdens are lightened, and poverty is sweetened ; rough places are made smooth, weary journeys made easier, and the storms of life more endurable. Yes, thankful lights up the troubled heart ; it is a fragrance in the sick-room, and sunlight to the bereaved. It is just fun to tickle thankfulness—it responds so smilingly, it smiles so gracefully, and repays us so generously. Anywhere, everywhere, at any time and under every circumstance, where you find thankfulness, it is a delight, a recompence for attention, a full payment for gifts or favors. At any rate, we regret them when they do not fall into the lap of thankfulness.

Unthankfulness will blight a palace, curse the loveliest home, and kill everything it touches. O, let us turn from the dark picture unthankfulness makes, and come to the haven of appreciation, the god-likeness of gratitude, the benediction of thankfulness. Here we find acts of sweetness, the breath of charity, and the love of angels.

The very countenance of a thankful man is a delight, his very atmosphere is a balm of love, and his words and acts are the cheer of the morning.

Money pays a bill, but thankfulness wins a friend ; good work fills a contract, but thankfulness seals a fellowship ; skill satisfies a patron, but thankfulness multiplies patients.

Be thankful your blunders have been looked on so charitably, your ignorance so leniently, your faults so lightly ; that with your blunders and ignorance and faults hampering you, you have succeeded so much better than you have deserved ; and look therefore charitably on the blunders and ignorance and faults of others, and be thankful theirs are not added to yours, and be specially thankful you can wonderfully improve your own.

OUR OFFICE APPEARANCE.

Do you really believe the dentist's character, reputation and skill; his dignity, learning and moral worth; his influence, thrift and success, and his finances, fees and social standing can be discerned by the appearance of his office?

This is the gage by which we judge other dentists, and by which they judge us, and by which our visitors judge us; yes, and it is the gage by which we shall judge ourselves and our own office, if we judge ourselves as others judge us. Of course, there are exceptions, but it is generally a just verdict.

Suppose yourself for a moment to be a stranger to your own office. Knock at the door and peep in. What is the picture? Of thrift or decay? Is it the appearance of neatness, precision and skill, or of slovenliness, confusion and sloppiness? Are the surroundings those of a professional gentleman, or of a crude, unkept, careless tinker? Does it invite the esthetic, refined and well-to-do class, or is it a becoming place for the shiftless, careless, stingy, who are the leavings of other dentists? Does it look like an office which invites those who trust you, or who come to be trusted; those who come for the best work, or the lowest prices?

That chair—always the object of the first attention—is it neat and clean, or clumsy and dirty? And the spittoon and instruments, and everything about the office, are they bright and orderly, or rusty and repulsive? And how about the reception-room—is it well kept and tidy, fresh and sweet, or are cobwebs on the ceiling, dirt on the windows, and litter everywhere? Is the atmosphere pure and inviting, or repulsive and stale?

And what you see in your office you will see in yourself, for usually a dentist carries his office appearance on his back—yes, and what kind of patients he has, and prices he gets, and work he does.

Well, are you satisfied with what you see? No! Then I venture others are not satisfied with you, and that your best friends are not satisfied with you, and that many stay away because they are not satisfied with either you or your office.

If you think I am too harsh with you, take a stroll around to

a half dozen other offices, and see how my gage fits them, and then be assured it just as well fits you.

And what will you do about it? Let all these suggestions pass unimproved? If you are wise, they will do you good—you and your business.

LITTLE SAVINGS.

We look at great amounts, and say to ourselves: "My, wouldn't I be rich if I had that!" Many years ago a man said to me:

"Could you not save fifty cents a day without special hardship?"

"Oh, yes," I replied, "I could save that out of what I spend foolishly, but—"

"Never mind the but," he replied; "could you not easily get 6 per cent for your savings after they amount to a respectable sum?"

"Yes."

"Do it, and in ten years you would have more than \$2,000; and ten years will soon roll around."

This was the beginning of my specific and persistent savings. It did me much more good than the accumulation of the \$2,000, which I would not otherwise have had. It begot the habit of saving, which begot the habit of economy, thoughtfulness and discipline, that has been worth many thousand dollars, and improvement in my business and business habits every way.

Not long after this incident a life insurance man came along. Though I had a wife and four children, I had scarcely given the subject of life insurance a thought. He convinced me I should have \$5,000 on my life for the benefit of my family. He showed what it would cost me, and convinced me that with a little more economy and industry I could meet the payments. "I'll do it," said I, "if we live on potatoes and salt." It was astonishing to see how I could make "both ends meet," and yet save for life and fire insurance, and still lay by my fifty cents a day as a nest egg. When my first boy was sixteen years of age, I persuaded him that

he could carry \$2,000 life insurance out of pocket money that most boys spend foolishly. It made a man of him. The second boy at this age did the same, and the third.

My friend, reduce your finances to a system. Systematize your earnings and your spendings, and bring every dollar to a strict account—yes, and the pennies, too. It will do you good, without making you penurious; it will really give you a pleasure, as well as a good bank account. But, mind you, most will come by little savings.

The hight of greatness, and honor, and happiness must be reached from the depths of self-abasement, self-sacrifice and self-discipline. Therefore, before there can be any self-assertion that is acceptable; any human wisdom that is efficient; any self-development that is praiseworthy, there must be conscious ignorance, and a humility that show us our inefficiency. From these must spring that hungering and thirsting after strength, and power, and success that shall call into intelligent and enthusiastic activity every faculty of spirit, soul and body. No life is greatly successful and happy which has not made some great surrender, drained some deep cup of experience, poured itself out without stint in some great service, and put its energy into some great labor, and has continued till itself and its work were perfected.

Seek to establish your business on good work, rather than on low prices; on downright honorable dealing, rather than trickery; on a steady, gradual, healthy growth of skill, industry and normal development, rather than any temporary, questionable or fortuitous circumstances. The first will carry you up with your business, and your business up with you—slowly, but surely; laboriously, but pleasantly; unostentatiously, but permanently. The other is fictitious, precarious, unreliable. The first is building your house on a rock; the other on the sand.

STICK TO IT.

This is one of the great secrets of success. Not as the tenacious molusk sticks to the ship's bottom to hinder progress; not as the lazy leach sticks to the neck in selfish surfeiting; not as the dishonest charlatan sticks to his deceptions, to get gain he does not earn—but stick to your business as the little coral sticks to its unceasing building, till it has created a great island; stick to your business as the industrious beaver sticks to his dam building, till it has turned a great river to his purpose; stick to your business with the open-hearted dignity, the noble purposes and the combined toil of an honest man, stimulated by difficulties, strengthened by opposition and established by merit. Stick to it till experience gives wisdom, manipulation gives skill and perseverance gives success. And still stick to it till success crowns you with the honors of a useful, happy life, and with the rest of well-earned victory.

Night is just as essential as day, trial as triumph, discipline as maturity—though not so pleasant. They fret us and try our temper; they exhaust our patience, and make us anxious; they fill us with disappointments. How often we have to complain of rain storms and dull days, of winter dreariness and dismal fogs, when we cannot work. How provokingly we are checked in our schemes and pushed aside in our best endeavors.

Yet all these are important in their time. Are our patients slow in coming? It gives us time for self-improvement. Does it seem as though we never should have a nice, paying business? It is far better first to earn it. Do we make blunders just when we would do our best? This stimulates us to greater perfection. Let patience have her perfect work. God's own work comes to perfection slowly. Do disappointments, at the very time success is within our grasp, discourage us? It requires many disasters to make one triumph. Are we reduced to the last crust just when we looked for plenty? It is very trying, but the triumph is the sweeter. Is it hard climbing up hill? Yes, it is tedious; but it gives us vigor,

and takes us nearer success. "Why can't I jump into success, and be done with all these difficulties? Why can't I pick up a few thousand, as some others do, and then retire? This eternal work and worry, strife and confusion, will kill me."

No, it will not. It is just what you need. Bend to it, and leave results to their own proper time.

There is such a thing as a restful busy life, and we would recommend every dentist to find it. This feeling of constant bustle and distracting haste is unpleasant, and exacting and unprofitable. It is not how much we do that exhausts us, so much as how we do it. Some men do a good day's work and come home serene and happy; others who have been jumping about all day in a half bushel are fit for nothing but to fret and foam and make every one about them uncomfortable.

Keep cool, act with method and intelligence, and work with a steady hand. Leave rasping irritability and unmanly fretfulness to the feeble-minded. Be the master of your situation and not its slave, and thus command your work and your patients and your surroundings, instead of allowing them to command you.

Remember, words are merely the embodiment of thought. Therefore, the more prominent you can make your thoughts, the more worth will your words have. Make your words so few and simple that your thoughts will stand up distinctly above them; be so choice in their selection that they will make your thoughts sparkle as new-found gems.

A beautiful form needs less costly clothing to make it attractive than a homely form. As Paul says, we cover our inferior and uncomely parts with a profusion of clothing, "whereas our comely parts have no need." So, when we see a great profusion of words we infer it is to cover some inferior thought, for the speaker is directing our attention less to his thought than to the clothes he is putting on.

HINTS.

It is only the leaky amalgam that discolours the tooth.

* * *

Nitroglycerin, three drops a day of a one per cent solution, is a powerful anti-neuralgic, especially in persistent sciatica.

* * *

The Dental Limbo is rather a nice poem, published in neat form, for the amusement of patients, by Dr. L. C. F. Hugo, Washington, D. C.

* * *

It is said that a saturated solution of potassium carbonate in glycerin is excellent for sensitive dentine.

* * *

The question of questions is: How can I make life give the greatest returns? for there will be no period in all eternity so important as the brief space we spend on earth.

* * *

Rorlick's Malted Milk is becoming justly popular. We have refrained from recommending it for some time, but so many who have used it speak in its praise we know it must be good.

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In Mississippi, dental diplomas are not recognized. Satisfactory examination by the State Board is necessary. Fee, \$10.00. Temporary license granted by any member of the Board till next annual meeting for \$10.00.

* * *

There are men who run before they are sent. We see them in our conventions, always making themselves prominent and offensively meddlesome and conspicuous, in place and out of place. It would be much better for them to keep their seat. But they will bob up, if it is only to get their name on the record. They have too much mouth and cheek, and too little brains and modesty.

* * *

Have faith in yourself. Nothing ventured, nothing had. Strong, intelligent, successful action comes from clear, positive, controlling conviction. But to be constant, aggressive, invincible, such conviction and action must have the enthusiasm of faith. It is a torch light in the darkness; it is an angel of hope in lonely, uncertain ground; it runs before us and places on the goal the glittering prize, and then gives us wings to reach it.

Complaining may become a thoughtless habit, injurious to ourselves and disgusting to our friends. The weather is seldom just right; the community is singularly out of joint; our friends have lamentable faults; we complain even of ourselves; we were not born right; we have to butt against more obstacles than any one else; the world does not appreciate us; our very instruments have to come in for a share of our complaints. They are the cause of half our failures; we can never keep such steel sharp; the manufacturers are idiots; our patients are continually bored with fault-finding; our family, if we are so unfortunate as to have one, ruffle our temper, spend our money, and are going to the devil. It is strange we have not gone there ourselves long ago.

* * *

We must be professional, and yet a man; dignified, and yet social; reserved, conservative and weighty, yet communicative, yielding and pliant. If our conduct is cold, stiff and austere, we shall repel; if it is passionate, familiar and obsequious, we shall disgust. The beautiful reserve that tempers manliness with deference, nobility with pleasantry, and thoughtfulness with wholeheartedness, makes a professional gentleman a favorite that is sure to be as successful as popular.

* * *

CUTICURA REMEDIES : WARNER'S SAFE CURE.—The much advertised "Cuticura Ointment" consists of a base of petroleum jelly, colored green, perfumed with oil of bergamot, and containing two per cent carbolic acid.

CUTICURA RESOLVENT.

R. Aloes, scot,
 Rheum powd..... āā dr. j
 Iodid pot..... gr. xxxvj
 Spts. frumenti..... pt. j

Macerate over night, and filter.

WARNER'S SAFE CURE.

R. Ext. lycopus Virg. (herb).....gr. cccviiij
 Ext. hepatica (herb).....gr. ccxxxij
 Ext. gaultheria..... gr. vij
 Nitrat pot..... gr. xxxix
 Alcohol, 90 per cent.....oz. ijss
 Glycerin.....dr. x
 Water.....q. s., pt. j

FOR OUR PATIENTS.

The melancholy days are come,
The saddest of the year.
Of wailing tongues, and naked gums
And toothlets, brown but dear.
Heaped in the hollows of the mouth,
The withered roots lie dead.
They quiver at the 'lectric touch,
And make one curse his head.
And when at last the pain is o'er,
Then, oh, there comes the pay.
And this word haunts my banged-up head
Through all the gloomy day.

Adopted by McCandless from Bryant.

ADVICE TO MOTHERS.

Were one to say to the mother, as she lovingly fondles her young, "ninety per cent of the diseases from which your child will suffer in after life are directly traceable to your treatment of it," would she not deny the assertion with unbounded indignation? And yet, the charge is true, for it must be apparent even to a superficial observer, that women, as a rule, possess such an imperfect knowledge of the laws of hygiene as to be but poorly equipped for a thorough training of their young.

There was a time when diseases were regarded as the manifestations of the wrath of an offended Deity, who could only be appeased by offering up sacrifices on the altars of the Gods, and as men thought it hopeless to struggle against the Deity, they paid little, if any, attention to the laws of hygiene. Those times, however, have passed. Our high culture has swept away these idle superstitions, and has revealed to us the universal reign of inexorable laws. This should teach us that health is the reward of obedience to these laws; disease, the penalty of their infraction. They are easily ascertainable, and readily followed. Indeed, such progress has been made in their systemization and comprehension, that we can almost choose between health and disease; but to secure the full measure of advantage which must result from an adherence to these laws, their study should not be postponed to mature life. It must begin in early infancy, and be made to form part of the home and school training, for knowledge and impressions received in childhood are the most lasting, and are readily developed in fixed habits.

The training of the child during this early period of its life is peculiarly the work of the mother, and not all the study and thought of after life can thoroughly eradicate the ideas and habits which she can impress on its young mind. To perform the work of education efficiently, the mother must be as familiar with the laws of the child's physical existence as she is with the laws of its moral well being.

Yet, while we realize that without an intimate acquaintance with the principles of good health, immunity from disease is impossible, we have made no united effort to instruct our women so that they can perform this duty. Nay, if some woman, more intelligent and enterprising than the rest of her sex, makes a thorough study of hygiene and of kindred topics, she too often becomes a subject for ridicule among her acquaintances. They seem to think, as did women of yore, that the circle of woman's attainments is bounded by the horizon of man's pleasures, and that if she has acquired a knowledge of dancing, singing, music, courtly manners, and a little understanding of household management, she is equipped for the duties of life; of marriage, and of maternity. To dispel this delusion, and awaken in women a sincere desire to familiarize themselves with the laws of health, which is the object of my present chapter, is, therefore, of the utmost importance. The evils which result from disobedience of these laws are not confined to women alone, but are transmitted to their offspring, and in this way are perpetuated. Truly, "The evil which men do, lives after them." How forcibly did Henry Ward Beecher realize this, when, in answer to the question "When should a child's education begin?" he said, "With its grandfather."

Bell's Mouth and Teeth.

THE OREGON DENTIST.

"When I was traveling through Southeastern Oregon last month," said Attorney W. W. McNair, "I found myself in a small village and with a large toothache. I found the local dentist, with his whirligig engine that resembled a small lathe, at the livery stable, clipping a horse.

"'Do you treat teeth?' I asked.

"'Course; what do you suppose I'm here for?' he replied in a nettled tone.

"'Well, I have one that needs attention.'

"'Want it pulled or plugged?' he asked.

"'I want it treated. How do you treat a tooth that is aching?'

"'Pull it er plug it.'

"I think this could be saved if it had proper treatment."

"Want it plugged, then? What is it—jaw tooth or gnawer?" and he tried to force a finger that was covered with dirt and horse hair in my mouth. I had grown a trifle suspicious of him, so thought I would find out what sort of work he did.

"Do you do bridge-work?" I asked.

"Not since I been practisin'. I did build a bridge across Cow creek when I was ranchin,' but I mostly confine myself to draggin' fangs, doctorin' horses and barberin'."

"Do you ever transplant teeth?"

"Say, I tried that onct, but she didn't work. Ol' Bill Robi'son had a tooth that was achin' and he wanted it pulled. I got the wrong tooth. Bill hollered an' cut up so that I thought I'd try to transplant it.

"I sawed off the snags and rivited it to Bill's plate o' false teeth, but she wouldn't work. The first time Bill bit a bone with it the tooth swung around on the rivet, an' he bit a hole in the roof o' his mouth as big as a hazel nut."

"I concluded not to have my tooth treated. The dentist was sorry, and told me that 'if it was holler to heat a knittin' needle red hot an' poke it in the tooth, or hold a chaw o' terbacker in my mouth.'"

San Francisco Post.

The forehead is the proud diadem of the intellect; through the eyes it sparkles, and on the countenance it glows; but it is the soul in the voice that gives it melody and rhythm and definite force. Be not, therefore, content with giving out bare words; throw in the coloring, and the fire, and the life of a bounding soul. And, remember, the soul of conversation is friendship, affection and sympathy.

I am tired of hearing essays at our conventions that are mere echoes of what has been repeated a dozen times by better minds and more forceful words. Be original if it is but half a thought, even that will grow by culture. Many of our new books are but rehashes of what has appeared fresh from the hands of others. Philosophers are thinkers not copyists, and philosophers are in demand. Hammer out something of your own and you will be a philosopher.

The negative man seldom succeeds in everything. To defend a position already attained is not sufficient. As sure as we do not gain ground we lose ground. In the great battle of life we must be aggressive or fail. McClellan was noted for building bulwarks

of defense; Grant for moving on the enemy; McClellan prided himself in keeping his enemy at bay; Grant, in taking their intrenchments. The Christian who contents himself with negative goodness is driven before the winds of evil influences like chaff, but the Christian who is weighted with good works and a solid character is impregnable; so the man of business who is contented with doing a little soon has nothing to do—the rough winds of competition drive him away; to be strong, we must use our strength; to be skilful, we must use our skill; to be successful, we must use our successes to enlarge our borders.

SAMBO'S GRIP THEORY.

"They tell me that you have turned doctor, Sambo?"

"Yes, sah; yes, sah. I's dun turned doctor, sah. I'se a specialist, sah."

"Indeed, what is your specialty?"

"De grip, sah."

"Do you mean to say, Sambo, that you understand the grip as well as our great physicians who have given years of study to it?"

"Indeed, I do, sah; much better, sah. Fact, I spec' I'se de only medical gemmen in de kentry who has de only ezac' k'rect ideah 'bout de grip, sah."

"Well, what is your theory?"

"Well, sah, when a man has the grip, sah, he has all de sym'toms of all de diseases dat dere am in de hull medical material, sah. He has sym'toms ob de roomatiz an' de jandice, an' de fevern' ague, an' de measles, an' de stummick complaint, an' consumption, an' yellow fever, an' small-pox, an' all de odder diseases."

"Yes; but how do you treat the disease?"

"Taint no disease, but hit at am a complication ob all de udder diseases. Consequently, de only way to treat de disease am to give it all de remedies for all de udder diseases."

"Well, did you do it?"

"Sartinly, sah. I went froo de 'pothecary shop an' picked out a little sample of all the medicines dar is, an' den stirred 'em all up togedder in a big water pail; an' den, ob co'se, I had a remedy dat would cure the hardest case ob grip you can scare up."

"Did you try your remedy on any patients, Sambo?"

"Yes, sah; I tried it on fo' or five patients, sah."

"Well, how did it work?"

"Well, sah, it would hab worked first class, but all de patients had to up an' die befo' de medicine got any chance 'tall to operate, sah."